



IOWA REGIONAL

WELCOME!

Welcome students, mentors, parents, volunteers, and spectators to this year's *FIRST*® Robotics Competition game, *RAPID REACT*™ presented by The Boeing Company. Whether you arrived by plane, train, or automobile – or are joining us virtually – we cannot wait for you to experience the excitement of robotics.

The last year has been challenging for us all. As a *FIRST*® community, together we not only adapted to new ways of learning, but also connected and collaborated with each other to foster innovation. Our community has shown immense creativity and resiliency by keeping active, exploring new ways to help local communities, and adjusting to a remote competition season. After more than a year apart, we are excited to see you this year!

2021 was also a special year for me as we recognized Christa McAuliffe with the United States Mint special edition Christa McAuliffe Silver Dollar. As a New Hampshire native celebrated for her commitment to education, Christa inspired me and so many others to pursue their passions. I am proud we were able to commemorate Christa in this special way, and in doing so, are helping raise awareness of *FIRST* and providing more access for future students. Because of you, Christa's legacy will live on in our local and global communities through this commemorative coin.

In our cross-program season – *FIRST*® FORWARD™ presented by Qualcomm – we are exploring the future of transportation. Today we are seeing first-hand the importance of transportation logistics, infrastructure, and investments on a global scale. Transportation affects us all,

whether it's your mail taking longer to arrive or your local grocery store having supply shortages. With your innovative minds, you have the opportunity to drive *FIRST* FORWARD, full speed ahead.

You are here because you are a problem solver. You are a creative thinker. You are a teammate. You strive to reach new heights and impact the world around you. Some of you may go on to design a better way to get food and water to countries in need. Some of you may create the next unmanned delivery vehicle or become a space traveler. No matter what you do, you will always be a part of the *FIRST* community. As a team, together, we can build a better world.

On behalf of the *FIRST* organization, I want to give a huge thank you to the students, mentors, parents, volunteers, partners, and sponsors who have kept the *FIRST* spirit growing stronger than ever. You are an inspiration to us all, and the rest of the world. We know that this season will be our best yet.

You've waited long enough. You've put in the work and now you are cleared for take-off!

Sincerely,



Dean Kamen, *FIRST* Founder



I'd like to thank all of you for the warm welcome I've received since becoming the CEO of *FIRST*. I've spent the past 25 years working with youth programs, and I can already tell that the *FIRST* community is full of passionate change makers. It is with that same energy that I want to welcome you to this year's *FIRST* Robotics Competition game, *RAPID REACT* presented by The Boeing Company. You have all worked so hard to get here and I can't wait to experience my first competitions with you!

Sincerely,



Chris Moore



Welcome to the **FIRST®** Robotics Competition Iowa Regional

Welcome to the 2022 **FIRST®** Robotics Competition Iowa Regional! We are so happy to be able to see all the teams and guests in person after the last two difficult years. We are delighted to have all of you — *students, parents, teachers, sponsors, volunteers and spectators* — with us for this wonderful occasion.

Greetings to our 45 teams and welcome to those who traveled long distances to be here with us! We look forward to seeing how you solved this year's **FIRST** Robotics Competition challenge, **RAPID REACTSM** presented by The Boeing Company. This week marks the culmination of months of hard work, creative problem solving and incredible teamwork. Here, on the arena floor, you will test your design, strategy and fabrication skills. You have learned what it means to be part of a team and you have contributed to its success. In the spirit of *Gracious Professionalism®*, your opponents will become your friends and colleagues – for years to come.

To all of our volunteers, mentors, teachers, and parents: thank you for your year-round support to create this outstanding opportunity for our students. Your investment of time and energy has been significant, and you have served as terrific role models. You have positively impacted this next generation of innovators, educators, engineers and leaders and you should be proud of your accomplishments!

To all our sponsors and partners: you play a critical role thanks to your commitment of funding, volunteers, internships, and leadership. You know the importance of a workforce that is technically astute, innovative, and energized and recognize that **FIRST®** participants are the future workforce that keeps our country competitive in the global economy. And in these times of economic uncertainty, we are even more appreciative of those of you who have stepped up to help us continue this all-important event. This Regional and **FIRST** year-round STEM related activities have been made possible thanks to your support!

We invite everyone to join us to cheer for these students as they put into play lessons and skills learned over the past several months. Watch them compete on the arena floor and visit them in the pits. Talk to them and congratulate them! They are all winners! They are our future.

On behalf of the leadership of Iowa **FIRST**, we wish all participating team members great success, volunteers amazing fun and spectators super charged excitement! Best of luck to everyone!

Bruce and Jan Newendorp
Iowa Regional Planning Committee Co-chairs





In RAPID REACTSM presented by The Boeing Company, two competing alliances are invited to process cargo for transportation. Each alliance is assigned a cargo color (red or blue, based on alliance affiliation) to process by retrieving their assigned cargo and scoring it into the hub. Human players assist the cargo retrieval efforts from within their terminals. In the final moments of each match, alliance robots race to engage with their hangar to prepare for transport!

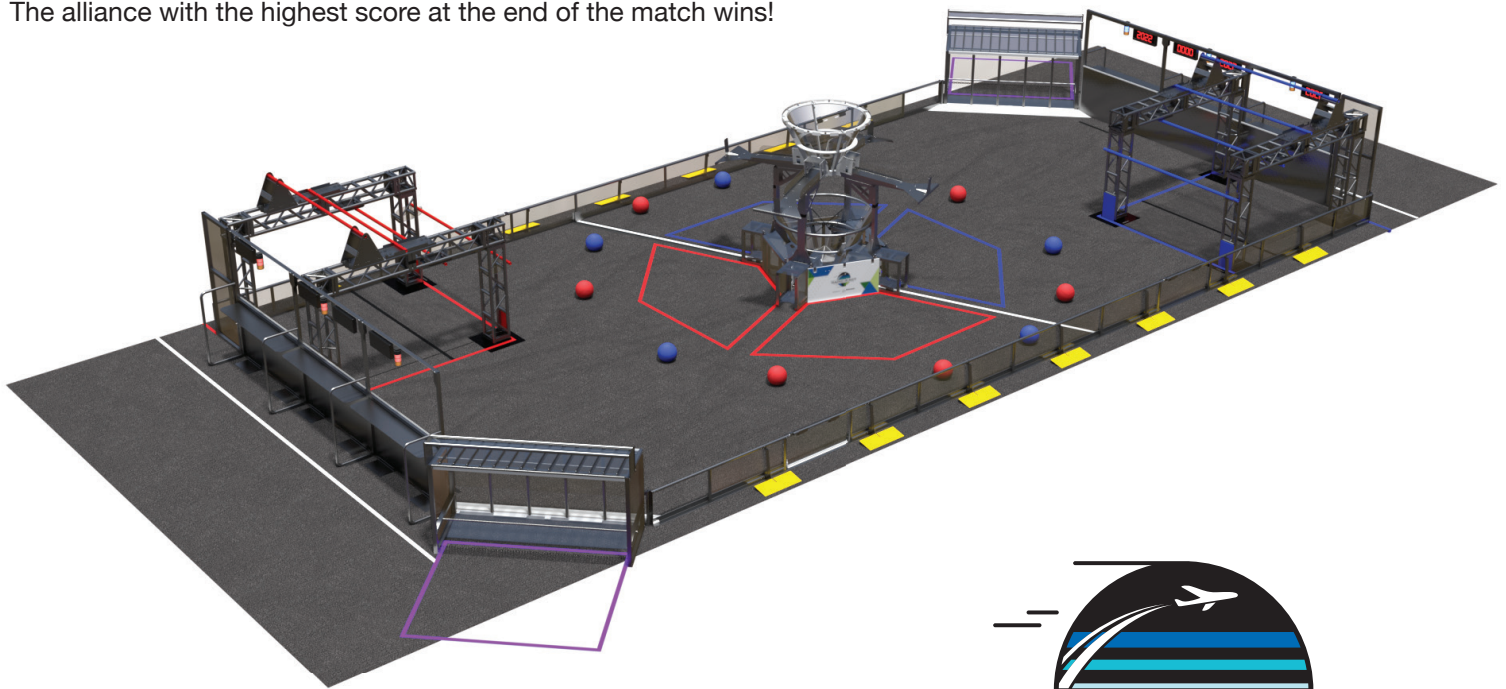
Each match begins with a 15-second autonomous period, during which time alliance robots operate only on pre-programmed instructions to score points by:

1. taxiing from their tarmac and
2. retrieving and scoring their assigned cargo into the hub.

In the final 2 minutes and 15 seconds of the match, drivers take control of the robots and score points by:

1. continuing to retrieve and score their assigned cargo into the hub and
2. engaging with their hangar.

The alliance with the highest score at the end of the match wins!



PRESENTED BY





View the 2022 game animation for the 2022 FIRST Robotics Competition game, RAPID REACT presented by The Boeing Company



Scan to View Animation





This is a complete list of FIRST® Robotics Competition awards. Please note that different event types (e.g. Regional events, District Competitions, Championship) offer a different set of awards. Not every award is presented at every FIRST Robotics Competition event.

Autonomous Award *sponsored by Ford*

Celebrates the team that has demonstrated consistent, reliable, high-performance robot operation during autonomously managed actions. Evaluation is based on the robot's ability to sense its surroundings, position itself or onboard mechanisms appropriately, and execute tasks.

Chairman's Award

The most prestigious award at FIRST®, it honors the team that best represents a model for other teams to emulate and best embodies the purpose and goals of FIRST.

Creativity Award *sponsored by Rockwell Automation*

Celebrates creativity that enhances strategy of play and was intentionally designed and not discovered.

Digital Animation Award *sponsored by AutomationDirect.com*

Celebrates the art of the digital animation and its close relationship to STEAM (Science, Technology, Engineering, Art, and Mathematics).

Engineering Inspiration Award

Celebrates outstanding success in advancing respect and appreciation for engineering within a team's school and community.

Entrepreneurship Award

Celebrates the entrepreneurial spirit and recognizes a team which has developed a comprehensive business plan in order to define, manage, and achieve the team's ongoing objectives.

Excellence in Engineering Award

Celebrates the team that demonstrates a professional approach to the design process.

Finalist

Celebrates the Alliance that makes it to the final match of the competition.

FIRST Dean's List Award

Celebrates outstanding student leaders whose passion for and effectiveness at attaining FIRST ideals is exemplary.

Founder's Award

Recognizes the organization or individual that has contributed significantly to the growth of FIRST.

Gracious Professionalism® Award

Celebrates outstanding demonstration of FIRST Core Values such as continuous Gracious Professionalism® working together both on and off the playing field.

Highest Rookie Seed Award

Celebrates the highest-seeded rookie team at the conclusion of the qualifying rounds.

Imagery Award in honor of Jack Kamen

In honor of Jack Kamen, Dean's father, for his dedication to art and illustration and his devotion to FIRST. This award celebrates attractiveness in engineering and outstanding visual aesthetic integration of machine and team appearance.

Industrial Design Award *sponsored by General Motors*

Celebrates the team that demonstrates industrial design principles, striking a balance between form, function, and aesthetics.

Innovation in Control Award

Celebrates an innovative control system or application of control components – electrical, mechanical, or software – to provide unique machine functions.

Judges' Award

During the course of the competition, the judging panel may decide a team's unique efforts, performance, or dynamics merit recognition.

Quality Award

Celebrates machine robustness in concept and fabrication.

Rookie All-Star Award

Celebrates the rookie team exemplifying a young but strong partnership effort, as well as implementing the mission of FIRST to inspire students to learn more about science and technology.

Rookie Inspiration Award

Celebrates a rookie team's outstanding success in advancing respect and appreciation for engineering and engineers, both within their school, as well as in their community.

Safety Animation Award *sponsored by UL*

Recognizes the team that submits a short animated film that best promotes the current season's team safety focus.

Team Spirit Award

Celebrates extraordinary enthusiasm and spirit through exceptional partnership and teamwork furthering the objectives of FIRST.

Volunteer of the Year Award

Presented to an individual, business, or organization that consistently excels in their efforts, with proven results in the areas of impact, leadership, personal commitment, community, and historical contributions.

Winner

Celebrates the Alliance that wins the competition.

Woodie Flowers Finalist Award

Presented to an outstanding mentor in the robotics competition who best leads, inspires, teaches, and empowers their team using excellent communication skills.



2022 SEASON FACTS

STATS (AS OF 01/04/2022)

- 31st Season Game:
RAPID REACTSM presented by The Boeing Company
- 3,225 Teams
 - 3,049 Veteran Teams
 - 176 Rookie Teams
- 80,600+ Youth Team Members
- 25,800+ Mentors/Adult Supporters
- 26 countries
 - Australia (35 teams)
 - Brazil (12 teams)
 - Canada (175 teams)
 - China (49 teams)
 - Chinese Taipei (35 teams)
 - Colombia (3 teams)
 - Czech Republic (1 team)
 - Dominican Republic (3 teams)
 - France (1 team)
 - Germany (1 team)
 - India (6 teams)
 - Indonesia (1 team)
 - Israel (57 teams)
 - Japan (5 teams)
 - Libya (1 team)
 - Mexico (76 teams)
 - Netherlands (3 teams)
 - Poland (2 teams)
 - Singapore (2 teams)
 - South Africa (1 team)
 - Switzerland (1 team)
 - Turkey (105 teams)
 - Ukraine (1 team)
 - United Kingdom (2 teams)
 - USA (2,646 teams)
 - Vietnam (1 team)

EVENTS

- 1 Live Kickoff: January 8, 2022 in Manchester, NH
- 133 Local Kickoffs tuning in via *FIRST*tv on Twitch
- 58 Regional Events
- 11 District Championships
- Chesapeake, Indiana, Israel, Michigan, Mid-Atlantic, New England, North Carolina, Ontario, Pacific Northwest, Peachtree, Texas/New Mexico Districts
- 90 District Events
- 1 Championship Event: April 20 - 23, 2022 in Houston, TX



PRESENTED BY



ROBOT FACTS

- Weight: up to approximately 140 lbs. total
- Robots are remotely controlled
- Powered by a 12 volt battery

KIT OF PARTS FACTS

- Items from more than 60 in-kind donors
- Over 450 different items distributed via the Kit of Parts system
- Kickoff Kits shipped to 133 Kickoff sites
- More than 78 tons of Kickoff Kit materials shipped all over the world by FedEx (weighs almost as much as the Space Shuttle Endeavour and eight Tyrannosaurus Rex dinosaurs)

FIELD FACTS

- Playing area: 27' W x 54' L
- Robots shoot oversized tennis balls into funnel-shaped goals
- Robots traverse ascending monkey bars for bonus points

SCHOLARSHIPS & ALUMNI

- *FIRST*[®] Scholarship Program – Exclusive scholarship opportunities for *FIRST* participants and alumni
- Career Guidance – How to leverage *FIRST* participation to explore career paths
- Networking – Opportunities to connect with other *FIRST* Alumni around the world
- Visit firstinspires.org/alumni

www.firstinspires.org | Our Future: Built Better Together



For the latest information on these events, visit frc-events.firstinspires.org/

Mar 02-05

Canadian Pacific Regional
Victoria, BC

Lake Superior Regional
Duluth, MN

Northern Lights Regional
Duluth, MN

South Florida Regional
West Palm Beach, FL

Mar 03-05

FIM District Detroit Event
Detroit, MI

FIM District Forest Hills Event
Grand Rapids, MI

FIM District Kettering University Event #1
Flint, MI

FIT District Waco Event
Waco, TX

NE District Granite State Event
Salem, NH

PNW District Clackamas Academy Event
Oregon City, OR

Mar 03-06

Hueneme Port Regional
Port Hueneme, CA

Izmir Regional
Gazimur, Turkey

New Taipei City x Hon Hai Regional
New Taipei City, Chinese Taipei

Mar 04-06

FIN District Kokomo Event presented by AndyMark
Kokomo, IN

FIT District Dripping Springs Event
Dripping Springs, TX

FMA District Bridgewater-Raritan Event
Bridgewater, NJ

FMA District Hatboro-Horsham Event
Horsham, PA

PNW District Glacier Peak Event
Snohomish, WA

Mar 05

CHS District Greater DC Event #1 Day 1
Washington, DC

CHS District Greater Richmond Event #1 Day 1
Richmond, VA

ONT District Humber College Event Day 1
Toronto, ON

Mar 06

CHS District Greater DC Event #1 Day 2
Washington, DC

CHS District Greater Richmond Event #1 Day 2
Richmond, VA

ONT District Humber College Event Day 2
Toronto, ON

Mar 06-08

ISR District Event #1
Ra'anana, Israel

Mar 08-10

ISR District Event #2
Ra'anana, Israel

Mar 09-12

Arizona North Regional
Flagstaff, AZ

Electric City Regional
Anderson, SC

Finger Lakes Regional
Rochester, NY

Oklahoma Regional
Shawnee, OK

Orange County Regional
Costa Mesa, CA

Orlando Regional
Orlando, FL

Regional Monterrey
Monterrey, Mexico

Ventura County Regional
Port Hueneme, CA

Mar 10-12

FIM District Gull Lake Event
Richland, MI

FIM District Kettering University Event #2
Flint, MI

FIM District Milford Event
Milford, MI

FIM District Rochester Event
Rochester, MI

FIM District St. Joseph Event
St. Joseph, MI

PCH District Dalton Event
Dalton, GA

PNW District Wilsonville Event
Wilsonville, OR

Mar 10-13

Southern Cross Regional
Wollongong, Australia

Mar 11-13

FIT District Channelview Event
Channelview, TX

FMA District Mount Olive Event
Flanders, NJ

FNC District ECU Event
Greenville, NC

NE District Pine Tree Event
Waterville, ME

NE District Waterbury Event
Waterbury, CT

Mar 12

CHS District Greater DC Event #2 Day 1
Washington, DC

Mar 13

CHS District Greater DC Event #2 Day 2
Washington, DC

Mar 13-16

New York Tech Valley Regional
Albany, NY

Mar 14-17

Istanbul Regional
Sanyer, Turkey

Mar 16-19

Arizona Valley Regional
Scottsdale, AZ

Central Illinois Regional
Peoria, IL

Greater Pittsburgh Regional
California, PA

Heartland Regional
Olathe, KS

Tallahassee Regional
Tallahassee, FL

Mar 17-19

FIM District Escanaba Event
Escanaba, MI

FIM District Livonia Event
Livonia, MI

FIM District Muskegon Event
Muskegon, MI

FIT District Austin Event
Austin, TX

FIT District Fort Worth Event
Fort Worth, TX

PCH District Columbus Event
Columbus, GA

PNW District SunDome Event
Yakima, WA

Mar 17-20

San Diego Regional presented by Qualcomm
Del Mar, CA

San Francisco Regional
San Francisco, CA

Mar 18-20

Bosphorus Regional
Sanyer, Turkey

FIN District Columbus Event presented by Toyota
Columbus, IN

FMA District Springside Chestnut Hill Academy Event
Philadelphia, PA

FNC District UNC Asheville Event
Asheville, NC

NE District North Shore Event
Reading, MA

NE District Western NE Event
Springfield, MA

PNW District Sammamish Event
Bellevue, WA

Mar 19

CHS District Greater DC Event #4 Day 1
Washington, DC

CHS District Greater Richmond Event #2 Day 1
Richmond, VA

Mar 20

CHS District Greater DC Event #4 Day 2
Washington, DC

CHS District Greater Richmond Event #2 Day 2
Richmond, VA

Mar 20-22

ISR District Event #3
Ra'anana, Israel

Mar 20-23

SBPLI Long Island Regional #1
Hempstead, NY

Mar 22-24

ISR District Event #4
Ra'anana, Israel

Mar 23-26

Buckeye Regional
Cleveland, OH

Colorado Regional
Denver, CO

Greater Kansas City Regional
Lee's Summit, MO

Great Northern Regional
Grand Forks, ND

Iowa Regional
Cedar Falls, IA

Monterey Bay Regional
Seaside, CA

Regional Laguna
Torreon, Mexico

Sacramento Regional
Davis, CA

Wisconsin Regional
Milwaukee, WI



For the latest information on these events, visit frc-events.firstinspires.org/

Mar 24-26

FIM District Belleville Event
Belleville, MI

FIM District Lansing Event
Mason, MI

FIM District Midland Event
Midland, MI

FIM District West Michigan Event
Allendale, MI

FIN District Tippecanoe Event
Lafayette, IN

FIT District Irving Event
Irving, TX

FIT District Pasadena Event #1
Pasadena, TX

PCH District Carrollton Event
Carrollton, GA

PNW District Oregon State Fairgrounds Event
Salem, OR

SBPLI Long Island Regional #2
Hempstead, NY

Mar 24-27

Hangzhou Regional
Hangzhou, China

Mar 25

ONT District University of Waterloo Event Day 1
Waterloo, ON

Mar 25-27

FIM District Saline Event
Saline, MI

FMA District Seneca Event
Tabernacle, NJ

FNC District Guilford County Event
Gibsonville, NC

NE District Central Mass Event
Shrewsbury, MA

NE District Greater Boston Event
Revere, MA

PNW District Auburn Event
Auburn, WA

Mar 26

CHS District Greater DC Event #3 Day 1
Washington, DC

ONT District University of Waterloo Event Day 2
Waterloo, ON

ONT District York University Event Day 1
North York, ON

Mar 27

CHS District Greater DC Event #3 Day 2
Washington, DC

ONT District York University Event Day 2
North York, ON

Mar 27-29

FIRST Israel District Championship
Jerusalem, Israel

Mar 30 - Apr 02

Arkansas Regional
Searcy, AR

Bayou Regional
Kenner, LA

Central Valley Regional
Fresno, CA

Hawaii Regional
Honolulu, HI

Idaho Regional
Nampa, ID

Las Vegas Regional
Las Vegas, NV

Seven Rivers Regional
La Crosse, WI

Smoky Mountains Regional
Knoxville, TN

St. Louis Regional
St. Louis, MO

Mar 31 - Apr 02

FIM District Kentwood Event
Kentwood, MI

FIM District Lakeview Event
Battle Creek, MI

FIM District Macomb Event
Livonia, MI

FIM District Troy Event
Troy, MI

FIT District Amarillo Event
Amarillo, TX

FIT District Pasadena Event #2
Pasadena, TX

NE District Pease ANG Event
Portsmouth, NH

PCH District Albany Event
Albany, GA

PNW District West Valley Event
Spokane, WA

Mar 31 - Apr 03

Central Missouri Regional
Sedalia, MO

Los Angeles Regional
El Segundo, CA

Apr 01-03

FMA District Bensalem Event
Bensalem, PA

FMA District Montgomery Event
Skillman, NJ

FNC District UNC Pembroke Event
Pembroke, NC

PNW District Bonney Lake Event
Bonney Lake, WA

Apr 02

ONT District Windsor Essex Great Lakes Event Day 2
Windsor, ON

Apr 03

ONT District North Bay Event Day 2
North Bay, ON

Apr 06-09

Aerospace Valley Regional
Lancaster, CA

FIRST Chesapeake District Championship sponsored by Newport News Shipbuilding
Hampton, VA

FIRST In Texas District Championship
Houston, TX

Green Country Regional
Tulsa, OK

Midwest Regional
Chicago, IL

Minnesota 10,000 Lakes Regional presented by Medtronic
Minneapolis, MN

Minnesota North Star Regional
Minneapolis, MN

Pacific Northwest FIRST District Championship
Cheney, WA

Rocket City Regional
Huntsville, AL

Utah Regional
West Valley City, UT

Apr 07-09

Festival de Robotique Regional Days 1-3
Montreal, QC

FIM District Jackson Event
Spring Arbor, MI

FIM District Kingsford Event
Kingsford, MI

FIM District Traverse City Event
Traverse City, MI

FIRST Mid-Atlantic District Championship
Bethlehem, PA

Peachtree District State Championship
Macon, GA

Apr 07-10

New York City Regional
New York, NY

Silicon Valley Regional
San Jose, CA

Apr 08-10

FIM District Walled Lake Event
Commerce, MI

FIM District Woodhaven Event
Brownstown, MI

FIRST North Carolina District State Championship
Lillington, NC

NE District Hartford Event
Hartford, CT

NE District WPI Event
Worcester, MA

Apr 09

ONT District St. Mary C.S.S. Event Day 1
Hamilton, ON

Apr 10

ONT District St. Mary C.S.S. Event Day 2
Hamilton, ON

Apr 13-16

Michigan State Championship
University Center, MI

New England District Championship
West Springfield, MA

Apr 14-16

FIRST Ontario Provincial Championship
Mississauga, ON

Indiana State Championship
Terre-Haute, IN

Apr 20-23

FIRST Championship Houston
Houston, TX

Abbreviation Key

CHS – FIRST Chesapeake

FIM – FIRST in Michigan

FMA – FIRST Mid-Atlantic

FNC – FIRST North Carolina

FTA – FIRST in Texas

FIN – FIRST in Indiana

NE – New England FIRST

ONT – FIRST Ontario

PCH – Peachtree

PNW – Pacific Northwest

ISR – FIRST Israel



Team Number	Team School/Organization	Nickname	City	Rookie Year
USA — Arkansas				
5006	Family/Community	Apophis	Fayetteville	2014
USA — Iowa				
167	Iowa City High School, West Senior High School & Liberty High School	Children of the Corn	Iowa City	1998
525	Cedar Falls High School	Swartdogs	Cedar Falls	2001
967	Linn-Mar High School	Iron Lions	Marion	2002
3928	Iowa 4-H Foundation, Story County 4-H & 4-H	Team Neutrino	Ames	2012
4646	4-H Youth Development Organization	Wildcard Robotics	Polk City	2013
5041	West Branch High School	CyBears	West Branch	2014
5576	Spirit Lake High School	Team Terminator	Spirit Lake	2015
5837	East High School & West High School	Unity4Tech	Waterloo	2016
5935	Grinnell-Newburg High School	Tech Tigers	Grinnell	2016
6317	West High School	Disruptive Innovation	Davenport	2017
6419	Valley Southwoods Freshman High School & Valley High School	ICE	West Des Moines	2017
6420	Muscatine High School	Fire Island Robotics	Muscatine	2017
6455	Columbus Catholic High School	The Coded Collective	Waterloo	2017
7309	Storm Lake High School	Green Lightning	Storm Lake	2018
7531	Dubuque Senior High School & Dubuque Hempstead High School	Servos Strike Back	Dubuque	2019
8737	Eddyville-Blakeburg Jr Sr High School	Rocket Rampage	Eddyville	2022
8766	Pekin Cmty High School	Panther Robotics	Packwood	2022
8770	Charles City High School	CC Robotics	Charles City	2022
8821	Turkey Valley Cmty School	TVRT-Trojanbots	Jackson Junction	2022
8822	Family/Community	Lc3 Thunderbirds	Montrose	2022
8824	Wapello Jr Sr High School	Wapello Royalty	Wapello	2022
USA — Illinois				
2022	Illinois Math and Science Academy	Titan Robotics	Aurora	2007
4213	4-H	MetalCow Robotics	Bloomington	2012
7848	Boys & Girls Clubs of America	WI-Fighterz	Pontiac	2019
USA — Minnesota				
2526	Family/Community & Maple Grove Senior High School	Crimson Robotics	Osseo	2008
2549	Washburn High School	Millerbots	Minneapolis	2008
2667	Apple Valley High School	Knights of the Valley	Apple Valley	2008
2957	Alden-Conger School	Knights	Alden	2009
3026	Family/Community	Orange Crush Robotics	Delano	2009
3102	Nevis School & Walker-Hackensack-Akeley HS	Tech-No-Tigers	Nevis	2009



Team Number	Team School/Organization	Nickname	City	Rookie Year
USA – Minnesota continued				
3206	Woodbury High School	Royal T-Wrecks	Woodbury	2010
4260	Blue Earth Area High School	BEAR (Blue Earth Area Robotics)	Blue Earth Area	2012
4859	Byron High School	The CyBears	Byron	2013
5275	New Prague High School	T.I.M.E.-Bots	New Prague	2014
5914	Caledonia Middle High School	Robotic Warriors	Caledonia	2016
6217	Cannon Falls Jr Sr High School	Bomb-Botz	Cannon Falls	2016
7541	Maple River High School	Maple River Robotics	Mapleton	2019
USA – Missouri				
1764	Liberty Senior High School & Liberty North High School	Liberty Robotics	Liberty	2006
3284	Camdenton High School	Camdenton LASER	Camdenton	2010
6424	Knob Noster High School	Stealth Panther Robotics	Knob Noster	2017
USA – Nebraska				
6805	Creighton Preparatory School	Cyber Jays	Omaha	2018
USA – Wisconsin				
4021	Luther High School	igKnightion	Onalaska	2012
6732	Bruce Public School	BHS RoboRaiders	Bruce	2017
8024	Sparta High School	Sparta Robotans	Sparta	2020



Regional Judges

Judge Advisor

Chad Seuser Manager

Embedded Software Solutions John Deere

Judges

Melanie Abbas

Assistant Vice President for Information Technology Services, Wartburg College

Pat Barnes

Program Director, Global Youth Education, John Deere

Dan Dalessandro Manager

Electrical Engineer, John Deere (retired)

Magda Galloway

Instructor, University of Northern Iowa

Joylyn Gibbons

Engineering Supervisor, John Deere

Dillon Glissmann

Project Manager, DISTek Integration

Maureen Hanson

Engineer, John Deere (retired)

Ethan Harstad

Director of Engineering, Mythrill Technologies

Lisa Hurban

Environmental Engineer, John Deere

Amy LeRoy, Supervisor

Mortgage Closing, Lincoln Savings Bank

Craig Martinson

Retired, Rockwell Collins

Dustin Moosman

Drivetrain Assembly Engineer, John Deere

Andy Pattee

Superintendent, Cedar Falls Community School District

Shawn Pezley

Engineering Manager, DISTek Integration

Craig Puetz

Engineering Fellow, John Deere (retired)

John Radke Manager

Worldwide Customer Support, John Deere

Josh Taylor Automation

Engineer, Bayer

Aarthi Thiruvengdam

Senior Software Manager, Mitchell International

Dave Williams

Iowa Govs. STEM Advisory Council and Iowa State House of Representatives

Connor Writz

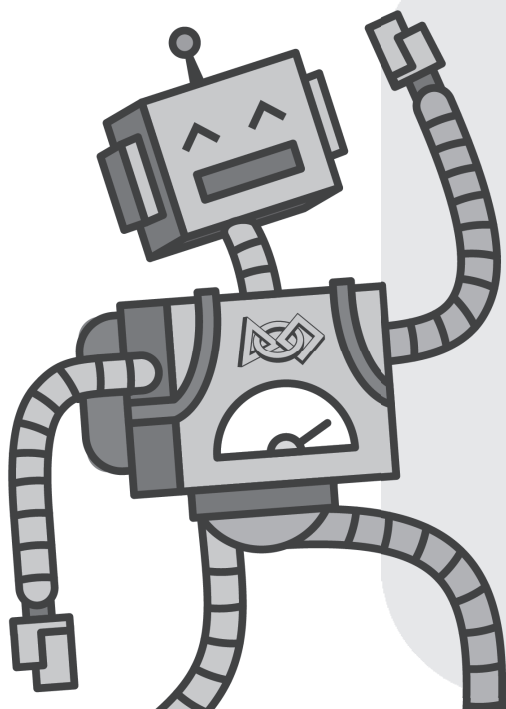
Drivetrain Assembly Engineer, John Deere

Judge Assistant

Carmen McIntyre

Test Engineer DISTek Integration

FIRST® Takes You Places



FIRST® creates opportunities for teams to explore new destinations, build friendships, and be part of a global movement working towards building a better future.

On your journey, **make your experiences more memorable and affordable.** Book your event housing with FIRST to:

- **Stay close** to venue and other teams
- Receive **guaranteed low-rates**
- **Rest easy** at FIRST-reviewed hotels
- Enjoy convenient FIRST-contracted amenities at most hotels including **complimentary parking, Wi-Fi, and breakfast**
- Gain flexibility to **make booking adjustments** and pay later
- Get **reservation protection** and assistance before, during, and after your stay if any unexpected challenges occur

www.firstinspires.org/housing-travel

#FIRSTTravelBuddy



2022 Iowa Regional Schedule

Wednesday March 23

6:00PM-8:00PM 5 Team Reps to Load In and Set Up Pits

Thursday March 24

7:45AM 5 Team Reps to Load In
8:30AM Pits, Machine Shop, Registration and Inspection Open
9:00AM-11:00AM Driver's Meeting, Field Open for Measurement and Calibration
11:00AM-12:00PM Lunch
12:00PM-6:30PM Practice Matches
1:00 PM-4:00 PM Scholarship Row
8:00PM Pits and Machine Shop Close

Friday March 25

8:00AM Pits and Machine Shop Open
8:30AM-9:00AM Opening Ceremonies
9:00AM-10:00AM Invited Guest Event
9:00AM-12:00PM Qualification Matches
10:00AM-4:00PM Scholarship Row
12:00PM-1:00PM Lunch
1:00PM-5:45PM Qualification Matches
5:45PM-6:15PM Awards Ceremony
~6:30PM** Pits and Machine Shop Close immediately following Awards Ceremony
6:30PM-7:30PM Team Social

Saturday March 26

8:00AM Pits and Machine Shop Open
8:30AM-9:00AM Opening Ceremonies
9:00AM-12:00PM *FIRST*® LEGO® League Challenge and *FIRST*® Tech Challenge demonstration
9:00AM-12:15PM Qualification Matches
9:30AM-11:30AM *FIRST*® LEGO® League Explore Expo
10:00AM-1:30PM Scholarship Row
12:15PM-12:30PM Alliance Selections
12:30PM-1:30PM Lunch
1:30PM-4:30PM Playoff Matches
4:30PM-6:00PM Awards Ceremony
6:30PM Pits Close

**Schedule subject to change. All times are estimated based on flow of rounds. See Pit Administration table for updated times.



Notes





SEEING TOMORROW BEGINS WITH YOUR VIEW

If we're being honest, shaping the world is more than just motion.

It's requires inspiration, problem-solving, and teamwork.

It's all the things *FIRST*® is. All the things *FIRST*® values.

At John Deere we share those values and see tomorrow in the faces of *FIRST*®. That's why our employees donate countless hours, and we sponsor more than 9,000 students on 1,200 teams across eight countries.

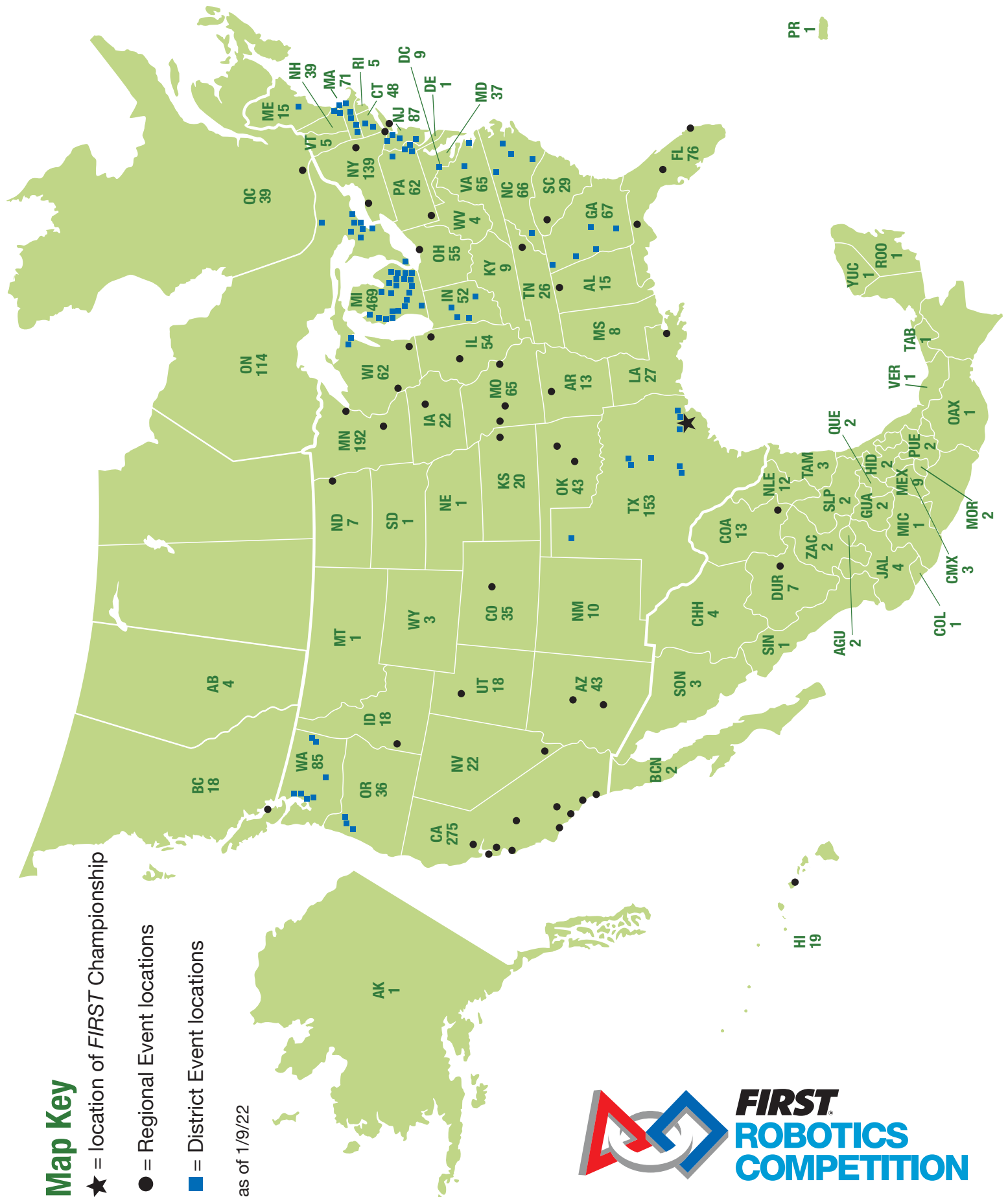
Yes, shaping the world won't be easy. We'll need innovators like you – those with diverse perspectives and ingenuity – to lead to the way.

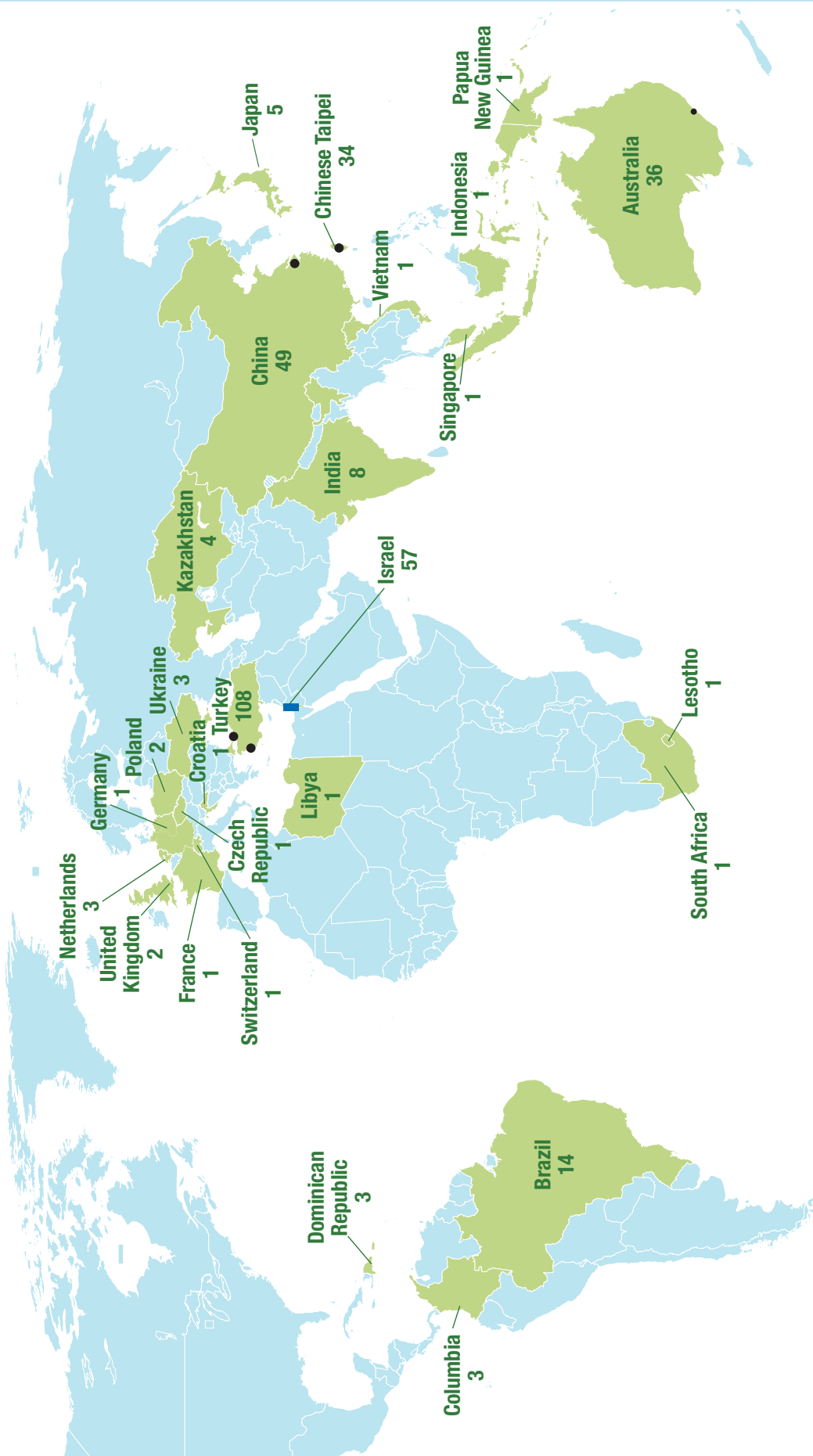
We're excited to see what you do next.



JOHN DEERE

Proud Strategic Partner of *FIRST*®







Get Involved!

Form a Team...

- ☐ Learn from engineering pros.
- ☐ Apply math and science concepts to design and build robots.
- ☐ Gain hands-on experience solving real-world problems.
- ☐ Learn about exciting science and technology careers.
- ☐ Make new friends.



Become a Team or Regional Sponsor...

- ☐ Provide financial support, equipment, parts, facilities, internships, or other services.
- ☐ Offer scholarships.
- ☐ Encourage employees to mentor or volunteer.
- ☐ Host an event.
- ☐ Build community goodwill.
- ☐ Inspire employees.
- ☐ Help build a technical workforce.



Be a Volunteer...

- ☐ Become a mentor or coach.
- ☐ Organize an event or program.
- ☐ Make a difference in young lives.

Contact: Jeff Margrett, *FIRST*® Regional Director - Iowa, Nebraska
jmargrett@firstinspires.org

Be an Event Volunteer...

- ☐ Assist at a competition.
- ☐ Make a difference in young lives.

Contact: Libby Batterson, iowafrcvolunteers@gmail.com



Donate!



- ☐ Help ensure thousands of students have access to unique learning experiences.
- ☐ Support the next generation of technological innovators and problem solvers.
- ☐ Scan this code with your smartphone to launch our secure [online donation page](#) on your browser.

Thank you for your generosity!



Thank You to Our Sponsors

Iowa Regional

CO-SPONSOR



JOHN DEERE

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DISTek

FIRST[®] ALUMNI

FIRST[®] prepares students for life beyond high school: education, career, and beyond.

FIRST ALUMNI STAND OUT TO EDUCATORS AND EMPLOYERS.

They are smart, innovative, driven, and prepared for life beyond high school, whether they choose to pursue public service, continue their education, or dive into the workforce.

- The vast majority of *FIRST* alumni report **more confidence in leadership roles, time management, creative thinking, perseverance, and problem solving** after *FIRST* participation.
- 81% of *FIRST* alumni **declare majors in STEM by year four of college**, compared to 58% of a comparison group of students, according to the *FIRST* Longitudinal Impact Study conducted by Brandeis University. Many colleges and universities support *FIRST* alumni with scholarship opportunities to off-set the cost of college.

Learn more at www.firstinspires.org/scholarships

“WHEN YOU BECOME A *FIRST* ALUM, YOU UNDERSTAND JUST HOW WIDE THE *FIRST* NETWORK REACHES AND JUST HOW WILLING AND EXCITED THAT NETWORK IS TO HELP YOU ACHIEVE YOUR GOALS. I GOT INVOLVED WITH *FIRST* ALMOST NINE YEARS AGO, AND IT’S BEEN AMAZING TO SEE THE WAYS IN WHICH *FIRST* AND THE CONNECTIONS I FORMED THROUGH IT HAVE SHAPED MY JOURNEY EVER SINCE. I GRADUATED FROM A *FIRST* PARTNER SCHOOL, YALE UNIVERSITY, AND NOW WORK AS A MECHANICAL ENGINEER FOR DEAN KAMEN’S R&D COMPANY, DEKA, WHERE I GET TO WORK EVERY DAY ON REALLY COOL, LIFE-CHANGING MEDICAL TECHNOLOGY.”

– Naoka Gunawardena, *FIRST* alum and mechanical engineer

FIRST CONTINUES TO SUPPORT *FIRST* ALUMNI AFTER HIGH SCHOOL.

- *FIRST* Scholarship Program
- *FIRST* Alumni Handbook
- *FIRST* Alumni Networking Groups
- Resources for career advice online and in person

Learn more at www.firstinspires.org/alumni



FIRST® Volunteers Delivering the Future Since 1992

The Iowa Regional relies on many dedicated volunteers and greatly appreciates the contribution from every one of them. They are the critical component that make this event successful. Please thank them for donating their precious time.

Iowa Regional Key Volunteers

Control System Advisor: Collin McIntyre

Field Supervisor: Dakota Hulse

FIRST® Technical Advisor: Casey O'Connor

FIRST Technical Advisor Assistant: Jason Cheng

Game Announcers: Sam Smith, Nate Purdy

Head Referee: Amanda Owen

Judge Advisor and Manager: Chad Seuser

Lead Queuer: Kayla McIntyre

Lead Robot Inspector: Jason Edgington, Kevin Koepsel

Master of Ceremonies: Tyler Owen

Pit Administration Supervisor: Doreen Hayek

Scorekeeper: Carla Lansing

Volunteer Coordinator: Libby Batterson

Regional Planning Committee

Co-chairs — Bruce & Jan Newendorp

Libby Batterson

Jeff Margrett

Marcy Seavey

Chad Seuser

Kenton Swartley





FIRST® Alliances

FIRST shares a fundamental vision with professional organizations, national non-profits, college/university alumni groups and others committed to sustaining key programs that 'ignite young minds'. These national relationships help increase the visibility of FIRST programs and provide valuable resources from state/local chapters. FIRST is pleased to acknowledge the current Alliances who play a key role in our success.

Alpha Omega Epsilon

International Engineering/Technical Science Sorority
www.alphaomegaepsilon.org

American Society for Engineering Education (ASEE)

www.asee.org

Automation Federation/ISA

www.automationfederation.org
www.isa.org

Boys & Girls Clubs of America

www.bgca.org

Electronic Components Industry Association (ECIA) Foundation

<https://www.ecianow.org/foundation>

Girl Scouts of the USA

www.girlscouts.org

MIT Alumni Association

<https://alum.mit.edu/>

National 4-H Council

www.4-H.org

National Center for Women & Information Technology (NCWIT)

www.ncwit.org

National Fluid Power Association (NFPA) Foundation

www.nfpa.com

National Parent Teacher Association (PTA®)

www.pta.org

National Robotics Week

www.nationalroboticsweek.org

Sigma Phi Delta

The Premier International Fraternity of Engineers
<https://sigmaphidelta.2stayconnected.com>

SIM foundation

<https://foundation.simnet.org/>

Society of Hispanic Professional Engineers (SHPE)

<https://shpe.org>

Society of Women Engineers (SWE)

www.swe.org

Triangle Fraternity

www.triangle.org

Yale Science & Engineering Association (YSEA)

www.ysea.org

FIRST is always seeking collaborative relationships with organizations that promote career opportunities in science, technology, engineering and math (STEM) and are looking for significant mentor, coach, and volunteer opportunities for their members. For more information, contact: alliances@firstinspires.org

We are not using
kids to build robots.
We are using robots
to build kids.

— Dean Kamen, Founder, *FIRST*®

Help *FIRST*® provide unique, hands-on STEM
learning experiences to millions of students!



www.firstinspires.org/donate



Your contribution is valuable. Thank you for joining
FIRST as we work together to create a culture where
science and technology are celebrated!



FOR INSPIRATION & RECOGNITION OF SCIENCE & TECHNOLOGY





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REV Robotics

Rockwell Automation, Inc.

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Vulcan Spring & Mfg. Co.

Diamond

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(UL)

WPI

Gold

Analog Devices, Inc.

Armabot

DriveWorks Ltd.

Festo

MK Battery

Novelis, Inc.

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Snap Action, Inc.

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Bronze

Covestro

CUI Devices

Flex Seal

Mastercam

Next Gen Robots LLC

OneIPM

SolidProfessor

Tableau Software

The Siemon Company

Wolfram Research

Xilinx



FIRST®— A Suite of Hands-On, STEM Learning Programs

FIRST® is the world's leading youth-serving nonprofit advancing STEM education. For over 30 years, students from all walks of life have developed self-confidence in STEM and valuable, real-world skills through FIRST that open pathways to a better future.

Through a suite of team-based robotics challenges and backed by a global network of mentors, coaches, volunteers, alumni, and sponsors, FIRST helps young people discover a passion for STEM and develop the skills they'll need to succeed in today's competitive workforce.

Children can start their journey with FIRST® LEGO® League and progress through FIRST® Tech Challenge and FIRST® Robotics Competition, or join any of our three programs based on age or grade level.

GRADES PREK-8 · AGES 4-16*



Young Innovators Use Skills and Imagination to Solve Problems as a Team

FIRST LEGO League introduces STEM to children through fun, exciting hands-on learning. Participants gain real-world problem-solving experiences through a guided, global robotics program, helping today's students and teachers build a better future together. FIRST LEGO League's three age-appropriate divisions inspire youth to experiment and grow their critical thinking, coding, and design skills through hands-on STEM learning and robotics.

*Ages vary by country

GRADES 7-12 · AGES 12-18



It's Way More Than Building Robots

FIRST Tech Challenge students learn to think like engineers. Teams design, build, and program robots to compete in an alliance format against other teams. Robots are built from a reusable platform, powered by Android technology, and can be coded using a variety of levels of Java-based programming.

Participants and alumni have access to career discovery opportunities, networking, and the FIRST Scholarship Program.

GRADES 9-12 · AGES 14-18



An Exciting Sport Built Around the World of STEM

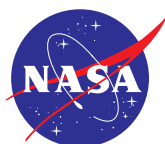
FIRST Robotics Competition teams design, program, and build a robot starting with a standard kit of parts and common set of rules to play in a themed head-to-head challenge. Teams also build a brand, develop community partnerships for support, and work to promote STEM in their local community.

Participants and alumni have access to career discovery opportunities, networking, and the FIRST Scholarship Program.

At the heart of FIRST are its Core Values, which emphasize the contributions of others, friendly sportsmanship, teamwork, learning, and community involvement. These include *Gracious Professionalism*® (respect for others, being a good sport, and sharing what you learn) and *Coopertition*® (competing hard but also helping the other teams).

Learn more about FIRST and our suite of hands-on programs at firstinspires.org

We'd like to thank our current Strategic Partners who continue to help *FIRST*® grow.



And we'd like to thank our Founding Sponsors for their commitment to the vision of *FIRST*.



FOR INSPIRATION & RECOGNITION OF SCIENCE & TECHNOLOGY

200 Bedford Street ■ Manchester, NH 03101 ■ 800.871.8326 ■ www.firstinspires.org

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