OVERVIEW & OPPORTUNITIES

[Year] — [Sponsor Name]
FIRST® IS ...

... a robotics community preparing young people for the future
The FIRST® mission

To inspire young people to be science and technology leaders and innovators, by engaging them in exciting mentor-based programs that build science, engineering, and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.
**FIRST** is a robotics community preparing young people for the future

Together with our sponsors, partners, mentors, and volunteers, we’re able to accomplish great things:

**Building your future workforce**
- Thrilling, team-based robotics competitions equip students with STEM workforce skills and instill a sense of accomplishment and self-confidence

**Building a community of global citizens**
- An inclusive community and powerful mentorship relationships empower young people to think big and feel hopeful for their future

**Building a better future**
- Together with our sponsors, partners, mentors, and volunteers, we inspire young people to channel their raw curiosity to think critically and seek ways to improve the world around them
**FIRST** is growing our global community

2019-2020 numbers at a glance

<table>
<thead>
<tr>
<th>679k+ students in ~110 countries</th>
<th>320k mentor, coach, judge, and volunteer roles</th>
<th>3,700 events</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,000+ scholarship opportunities from 200+ providers totaling $80M</td>
<td></td>
<td>25% year-over-year growth in worldwide teams to 84,131</td>
</tr>
</tbody>
</table>
**FIRST** is in more than 100 countries

Approximately 110 countries have **FIRST** programs, representing more than half of the world. **FIRST** participation grew by 18% or over 104k youth in FY20 worldwide!
It’s not about the robots. It’s never been about the robots.

We are not using kids to build robots. We are using robots to build kids.
— Dean Kamen, Founder, FIRST®
FIRST® Strategic Pillars

**Expand Access and Participation, Broad and Deep:** All youth have access to a progression of FIRST programs. Exciting, inviting, accessible and affordable. Easy to engage. Coherent ecosystems supporting a clear progression of K-12 programs.

**Increase Diversity:** Programs serve an inclusive and diverse audience, reflecting the population of the communities we serve.

**Scale Efficiently:** Programs efficiently scale to meet increasing demand while maintaining world-class quality and promoting our core values.

**Ensure Sustainability:** Garner financial support, including corporate, individual, government and foundation funding. FIRST Alumni are committed and engaged for life.

**Achieve Broad Recognition:** Universally recognized as the leading life-changing STEM engagement program (i.e., a “Movement”).
FIRST LONGITUDINAL IMPACT STUDY

Conducted by Brandeis University, Center for Youth and Communities
Summary of key findings at 72 months

Evidence of long-term impact of FIRST participation

Sustained attitudes and interest in STEM:
• Positive impacts on STEM-related attitudes and interests six years after entering the program.
• Those impacts are evident across all major population groups and persist into college.

Persistence in STEM in college:
• FIRST alumni are significantly more likely to pursue college pathways into computer science and engineering than comparison students.
• They are more likely to be interested in majoring in computer science, engineering, and robotics; to take computer science and engineering courses, and to declare a major in computer science or engineering.
• By year three, 81% declare a major in STEM; 69% in engineering or computer science.

Sustained attitudes and persistence for female FIRST alumni:
• Female FIRST alumni continue to show significant impacts, including impacts on STEM attitudes, interest in computer science and engineering majors, course-taking, and declared majors in computer science and engineering.
• In most cases, the gains for female FIRST alumni were significantly larger than those for male FIRST alumni.

Learn more at firstinspires.org/impact
STEM Outcomes and Attitudes

FIRST Longitudinal Study
FIRST students are significantly more likely to show gains in STEM outcomes than comparison students.

<table>
<thead>
<tr>
<th>Category</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>2.4x</td>
</tr>
<tr>
<td>Career Interest</td>
<td>2.1x</td>
</tr>
<tr>
<td>Identity</td>
<td>2.0x</td>
</tr>
<tr>
<td>Activity</td>
<td>1.8x</td>
</tr>
<tr>
<td>Knowledge</td>
<td>1.7x</td>
</tr>
</tbody>
</table>

All differences statistically significant, p ≤ .05

Source: FIRST® Longitudinal Study: Findings at 72 Month Follow-Up, The Center for Youth and Communities, Brandeis University, May 2020
Positive significant impacts are evident for **FIRST** students from underrepresented and underserved communities

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Girls and Young Women</th>
<th>Economically Disadvantaged</th>
<th>Underrepresented Racial Groups</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM Interest</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
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<tr>
<td>STEM Activity</td>
<td>+</td>
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<td>+</td>
<td>+</td>
<td>+</td>
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<tr>
<td>STEM Careers</td>
<td>+</td>
<td>+</td>
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<tr>
<td>STEM Identity</td>
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<tr>
<td>STEM Knowledge</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Plus mark (+) indicates a positive, significant impact at p≤ .05. Impacts are relative to comparable subgroups in the comparison population (for example, female **FIRST** participants compare to female comparison group members). Economically disadvantaged is defined as those whose family income is below $50,000. Underrepresented racial groups includes Black or African-American, Hispanic or Latinx, Native American, Hawaiian/Pacific Islander, and multi-racial.

*Source: **FIRST**® Longitudinal Study: Findings at 72 Month Follow-Up, The Center for Youth and Communities, Brandeis University, May 2020*
Young women and men who participate in FIRST consistently show greater gains than comparison students of the same gender.

Data represent point difference in STEM-related outcomes between FIRST students and comparison group students of same gender. All differences statistically significant, p ≤ .05

Source: FIRST® Longitudinal Study: Findings at 72 Month Follow-Up, The Center for Youth and Communities, Brandeis University, May 2020
Evaluation Questions:

• What are the short- and long-term impacts of the FIRST Robotics Competition, FIRST Tech Challenge and FIRST LEGO League programs on program participants?
• What are the impacts on college and career trajectories of FIRST alumni?
• To what extent are there differences in experiences and impacts among key sub-populations of FIRST participants?

Quasi-Experimental Design:

• **Sample**: new students in FIRST and a comparison group of peers from same schools as the FIRST Students – tracked over multiple years
• **Data Collection**: Baseline and annual follow up surveys; interviews, focus groups supplement survey data
• **Statistical analysis**: controls for baseline differences in gender, race, income, parental support for STEM, and baseline involvement and interest in STEM among the FIRST participants and comparison group

Sample at 72 months: 74% response rate

• 550 FIRST participants (67% of baseline)
• 386 Comparison group (86% of baseline)
• 71% of the sample is out of high school (college, graduate school, career)
FIRST EQUITY, DIVERSITY, & INCLUSION (ED&I)

Our Future: Built Better Together
Our goal

Diversity across all FIRST programs = Diversity of population
Building STEM literacy and confidence is required to be successful in nearly every endeavor in today’s technology-rich society.

STEM competence and confidence creates pathways to well-paying jobs and entrepreneurial opportunities in the fastest-growing fields, creating the potential for young people to achieve purposeful and prosperous lives.

Collectively, we must enable our young people to grow up to solve the world’s most pressing problems, be strong citizens, and build a brighter future.
Our strategy

Remove barriers, increase opportunities

**Increasing capacity**
- Dedicated Staff: HQ & VISTAs
- Field Allies & Influencers
- Advisory Committees

**Building skills and resources**
- Inclusion training for adults and youth
- Resources on engaging girls, students with disabilities, & the LBGTQ+ community

**Engaging youth where they are**
- STEM Equity Community Innovation Grants
- Collaborating with Youth-serving Organizations
FIRST @ Home

A new FIRST access point, the FIRST @ Home website includes curated resources for remote learning and skill development

- Parent and Educator/Coach Guide
- New, fun 12-session PreK-12 STEM activity series for teachers, parents and coaches to engage students
- Links to free mission-aligned offerings in STEM and Career Technical Education
FIRST Alumni

We are engaging alumni who are changing the world.

“The FIRST program and the community that surrounds it has completely changed my story and helped me grow from being an impatient and self-conscious teenager to a mentor and educator that my students and fellow mentors can rely on.”

— Tia Singh, 2019 FIRST Rising Star Award Recipient, FIRST Alum and Mentor
Electronics Technology (CTE) Teacher Candidate, Success via Apprenticeship Program,
NYC Department of Education
FIRST Alumni

We are engaging alumni who are changing the world.

“I’m super proud to be a FIRST alum. The program single-handedly changed my life. I learned leadership, public speaking, how to raise money, how to actually build a robot, how to do programming, and I made friends all around the world.”

— Neil Parikh, FIRST Alum
Co-founder, Casper
“FIRST was a huge game-changer for me. I learned how to be a team player and have responsibilities. I’m now studying at a technical college to be an automotive technician. Everything that I am doing now in class, I had learned previously on my robotics team – it’s just a little more complex.”

— Evan Rotter, FIRST Alum
Ford Technician