



The Tech
Challenge

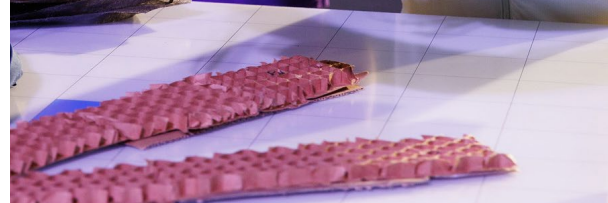
SURVIVE THE STORM!

2023

Presented by
Amazon

2023 Executive Summary

Inspiring a New Generation of Innovators



Inspiring a New Generation of Innovators

About the program

A signature program of The Tech, The Tech Challenge is an annual engineering design challenge for students in Grades 4-12, with a particular focus on girls and other groups that are underrepresented in STEM. Generally, about 45% of participants are girls and roughly 40% of students come from Title I schools. Now entering its 37th year, this program continues to embody The Tech's mission by inspiring the next generation of innovators.

Developing problem-solvers and learning from failure

Beginning in October, participants spend months working with their team to solve a real-world problem. They become deeply engaged in the engineering design process by working to solve each year's unique challenge. Teams document every step of their journey including testing, brainstorming, and most importantly, what they learn through experimentation and failure. The program culminates in an inspiring showcase in April where teams put their solutions to the test.

Thank you volunteers!

In 2023, corporate and individual supporters joined us as judges and helped make the Virtual Showcase a big success. This year, we had volunteers from **23andMe, 99 Bridges Inc, Adobe, Alphabet, Amazon, AMD, Apple, Applied Materials, Arista, Arm, ASCE, ASML, Blue Planet LTD, Blue River Tech, Cavium, Cisco, City of Mountain View, Cristo Rey High School, De Anza College, Epic, EY, Facebook, Fictiv Inc, First Tech Federal Credit Union, Flying Fish Exhibits, Google, Guardant Health, Hathaway Dinwiddie, Hitachi America, Hitachi Vantara, Intel, Junior League of Palo Alto, Juniper Networks, Kiewit, Kimley Horn, KLA, Lawrence Berkeley Labs, LinkedIn, Lockheed Martin, Marvell, Netflix, Northrop Grumman, Notre Dame High School, NXP Semiconductors, Oakland Museum of California, Oracle, Papros Inc, PayPal, Phoenix DeVentures, Pinterest, Prado de Pino LLC, PwC, Roku Inc, SAHM, Samsung, Seagate, See's Candies, SJSU, SLB, Sobrato, Philanthropies, Sonatus, St Joseph's University Hospital, Stanford University, Star One Credit Union, Synaptics, The Tech Interactive, Thermo Fisher, UCSC, Valley Water, Varian, Workday, and Zoom Video Communications.** We are grateful to our generous corporate, foundation and individual supporters of The Tech Challenge for helping us inspire the next generation of innovators and problem-solvers. We could not do it without you.

Local, national and global expansion

Our 36 years of Tech Challenge expertise is the foundation of our Design Challenge Learning methodology at The Tech. Design Challenge Lesson plans shared via our website and partners impacted an estimated 620,000 youth this past year and an additional 3,200 students were impacted by educators who participated in our Design Challenge Learning online course. Our Exploring Engineering with The Tech Challenge 20-session curriculum was run with 1,325 students in after-school and summer programs, helping them build their problem-solving skills and interest in engineering and design. Our goal is that, by 2024, two million people each year will be using Tech-produced materials to develop their problem-solving skills.

Tech Challenge Executive Committee

Chair:
John Heinlein, Ph.D.,
Committee Chair
Sonatus
The Tech Board

George Apostol Jr.
Elastics.cloud, Inc.

Greg Brown
Program Founder
STEM Consultant

Dan Christman
Marvell Technology,
Inc.

Chris DiGiorgio
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The Tech Board

John Decker
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Aymeric Gisselbrecht
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Mike Heald
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Bill Heil
The Tech Board

Rami Kanama
Microchip Technology

Theodore Lamour
Hitachi Vantara

Tristan Moser-Bleil
PwC

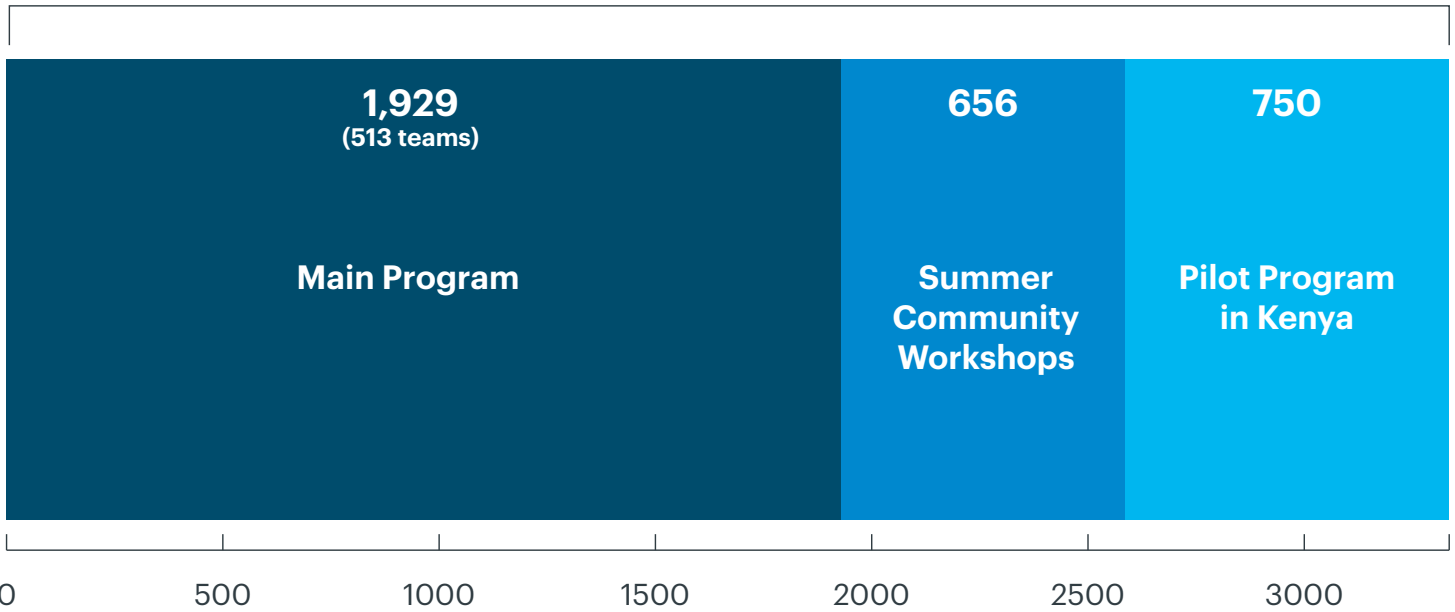
Ekta Sahasi
spikeview Inc.

Lindo St. Angel
Amazon

Craig Stein
Synaptics

Noah Zamansky
eBay

Total participants served: 3,335

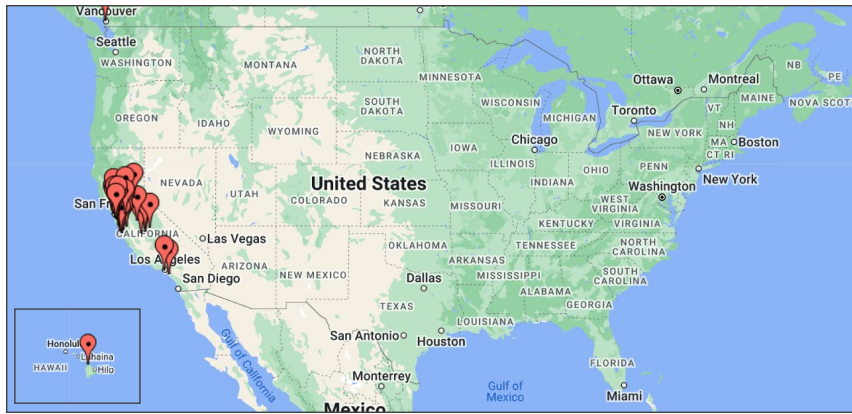


New this year!

53 students earned college credit through Foothill College by participating in The Tech Challenge.

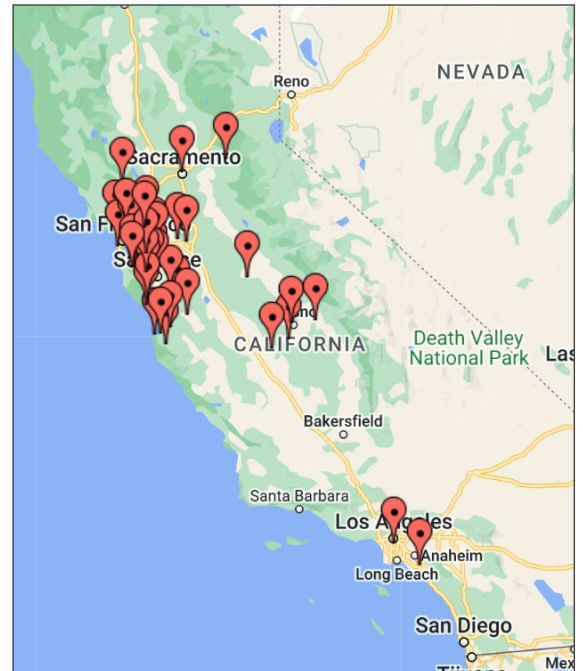
2023 participants came from

United States & Canada



- | | | |
|---------------|-----------------|----------------|
| Alameda | Fresno | Monterey |
| Alviso | Gilroy | Morgan Hill |
| Atherton | Hayward | Mountain House |
| Belmont | Hollister | Mountain View |
| Campbell | Irvine | Newark |
| Carmel Valley | Kamuela, Hawaii | Oakland |
| Caruthers | Los Altos | Oakville |
| Concord | Los Altos Hills | Palo Alto |
| Corte Madera | Los Banos | Placerville |
| Cupertino | Los Gatos | Pleasanton |
| Daly City | Menlo Park | Richmond |
| Dublin | Merced | Sacramento |
| Five Points | Milpitas | Salinas |
| Fremont | Monte Sereno | San Carlos |

California



- | | |
|---------------|-------------------|
| San Jose | Sunnyvale |
| Santa Clara | Tracy |
| Santa Cruz | Union City |
| Saratoga | Vancouver, Canada |
| Scotts Valley | Walnut Creek |
| Seaside | Woodside |
| South Gate | |


The Tech Challenge By the Numbers

Participants

 **43%**
women/girls

 **55%**
men/boys

2%
non-binary or
prefer not to say

 **35%** of teams came from Title I low-income schools.

2023 participants said: **The Tech Challenge helped me to...**

91%



Listen to and
use other
people's ideas

91%



Have fun with
engineering

89%



Work better
with others

90%



Come up with
more creative
solutions to
problems

83%



Respond better
to setbacks

85%



See that you can
turn your ideas
into a reality

91%



Compare
different
solutions and
choose the
best one

84%



See how you
can solve real
world problems
with engineering

79%



Be more
interested in
a job in STEM

Participant feedback: What did they learn?

“I learned that science is everywhere.”

“I learned that sometimes it’s best to look at problems from different perspectives.”

“I learned that teamwork was A LOT of communication.”

“We learned about scientific phrases and engineering. We also learned how to work as a team. Most of all we had a great time.”

“I learned that it’s okay if not all of your ideas work, sometimes you just need to keep trying.”

“We have learned that in engineering it is essential to be open to new ideas and be willing to think creatively. The ability to do so provided us with the opportunity to devise innovative ideas and overcome challenges that we faced along the way.”

Supporter feedback

“Diversity is a critical part of innovation because it brings out different points of view which are necessary in solving problems in new and creative ways. We support The Tech Challenge because we believe it helps prepare students to explore educational experiences and even college majors that they would not otherwise consider due to lack of confidence, not competence.”

— Lindo St. Angel,
Vice President, Engineering,
Amazon

“Education is a key area of focus for us at Zoom. The hands-on experience of the challenge helps participants bring their STEM education to life and also better prepares them for the future.”

— Brendan Ittelson, CTO, Zoom
Video Communications



“We want to encourage students to develop their passion for science as a means to solve problems to help make the world a better place. I’m inspired by the teamwork and collaboration these students demonstrate. The best solutions come from the integration of different ideas.”

— Kim Caple, President,
Genetic Analysis Division,
Thermo Fisher Scientific

Educator feedback

“I saw the students change their mindset many times during the course of this year’s Tech Challenge. It went from “This will be easy” in the beginning, to “how are we going to do this?” to “this is going to work!”. This shift in thinking helped them to understand how mindset can affect performance and productivity.”

— Carl Erikson, Buchser Middle School

“Nothing worked the first time, and they had to show creativity and innovation in their Engineering approaches. They spent a lot of time expanding their digital literacy, and researched lots of Physics on how wind worked and how to defuse it.”

— Jim Burnham
(SVCTE Mechatronics Engineering Instructor)

Media Summary



Videos

[Highlights Video](#)
[Sizzle Reel](#)



[Photos from showcase](#)
[Flickr album](#)



Media Coverage

Total Media Coverage: Impressions 197,390

April 29, 2023:
San Jose Mercury News, [“Thousands of students compete in Tech Challenge in San Jose”](#)
Sunday circulation: 150,686

April 30, 2023:
[ABC Bay Area](#)
Local viewership: 46,704

May 5, 2023:
PR Newswire, [“This Week in Environment News: 10 Stories You Need to See”](#)

May 18, 2023:
Alameda Patch, [“Girl Scouts Participate in Tech Challenge 2023: Survive the Storm”](#)

Volunteer feedback

“I loved being in the creative and competitive energy of the event and being able to be there to support the students.”



“My favorite thing about volunteering for The Tech Challenge was having conversations about the different designs with 4th and 5th graders. They were so smart and funny. I actually genuinely believe they taught me more practical knowledge than I ever knew about aerodynamics.”

Press Releases

Total Coverage:
423 Pick ups, 9,509 views, 2615 engagements

May 1, 2023:
[“Bay Area Students Battle Mother Nature: The Tech Challenge 2023 Takes on Extreme Weather with “Survive the Storm” Theme, Featuring Inventive Structures Designed to Protect Against High Winds”](#)

April 24, 2023:
[“Tech Challenge returns to Downtown San Jose after three year hiatus”](#)



Thank you 2023 supporters!



The Tech
Challenge



Presented by
amazon

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FOUNDING SUPPORTERS



Barbara and
Bill Heil



ThermoFisher
SCIENTIFIC

PRINCIPAL SUPPORTERS



GIBSON DUNN Google



VIRTUAL PLATFORM PARTNER



UNDERWRITING SUPPORTERS



INVESTING SUPPORTERS

Eileen and Christopher DiGiorgio
IBM
David H. Liu Foundation

Monolithic Power Systems
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SUPPORTERS

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Valley Water
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