



The Tech
Challenge

KINETIC COMMOTION

Presented by
amazon

2022

2022 Executive Summary



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 under-represented in STEM. Generally, about 45% of participants are girls and roughly 40% of students come from Title I schools. Now entering its 36th 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.

The Tech Challenge strives to meet students where they are, which was especially important as students faced some unique challenges during the pandemic. To meet these needs, The Tech Challenge offered:

- An all virtual main program
- Exploring Engineering with The Tech Challenge — a 20-session curriculum designed for afterschool and summer programs
- Library workshops and activity handouts

Thank you volunteers!

In 2022, corporate and individual supporters joined us as judges and helped make the Virtual Showcase a big success. This year, we had judges from **23&me, Abracon, Amazon, Apple, Arm, Bill.com, EY, Ford Motor Company, Google, Hitachi, IBM, Intel, Lockheed Martin, Marvell, Northrop Grumman, Roku Inc., Samsung, San José State University, SAP, Seagate, See's, Stanford University, Synaptics, The Tech, Thermo Fisher Scientific, Valley Water, 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 35 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. Our Exploring Engineering with The Tech Challenge 20-session curriculum was run with 2,055 students in afterschool 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.,
The Tech Board**

George Apostol,
Adviser

Greg Brown,
Program Founder,
STEM Consultant

Julia Chen, Cisco

Dan Christman, Marvell

John Decker, EY

Chris DiGiorgio,
The Tech Board

Aymeric Gisselbrecht,
The Tech Board

Mike Heald, Accenture;
The Tech Board

Bill Heil, The Tech Board

Brendan Ittelson, Zoom
Video Communications

Rami Kanama,
Microchip Technology

Theodore Lamour,
Hitachi Vantara

Tristan Moser-Bleil, PwC

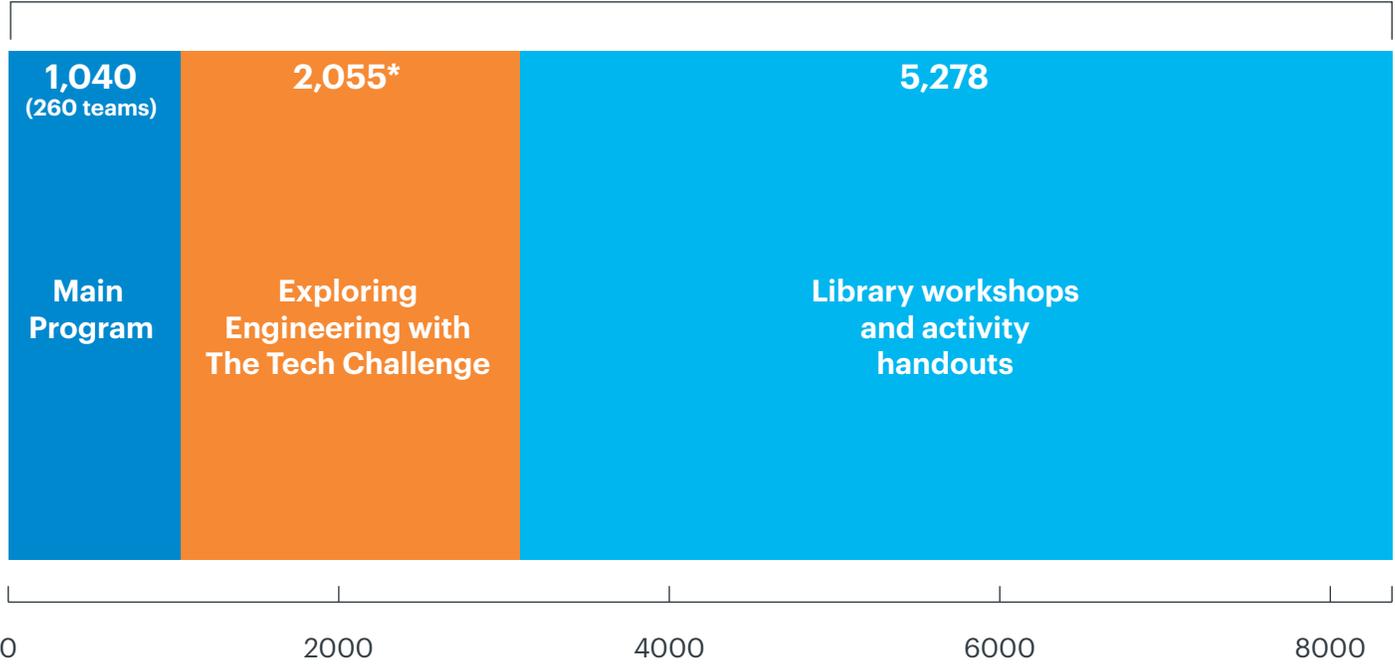
Ekta Sahasi,
spikeview Inc.

Thao Smith, eBay

Lindo St. Angel,
Amazon

Craig Stein, Synaptics

Total participants served: 8,373

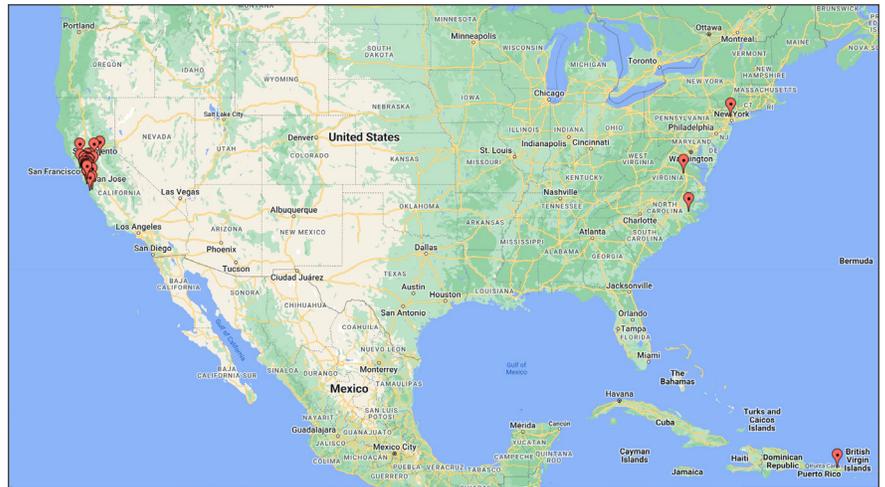


*as of May 10, 2022

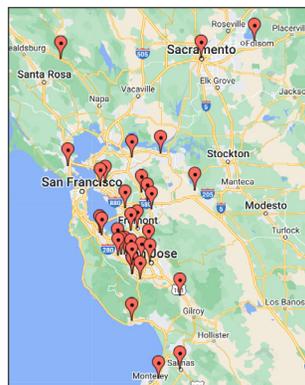
2022 participants came from

- Antioch
- Belmont
- Calistoga
- Concord
- Corte Madera
- Cupertino
- Dublin
- El Dorado Hills
- Fremont
- Guaynabo, PR
- Hackensack, NJ
- Hayward
- Henrico, VA
- Los Altos
- Los Altos Hills
- Los Gatos
- Milpitas
- Morgan Hill
- Mountain House
- Mountain View
- Newark
- Oakland
- Palo Alto
- Piedmont
- Pleasanton
- Sacramento
- Salinas
- San Carlos
- San Jose
- San Ramon
- Santa Clara
- Santa Cruz
- Saratoga
- Seaside
- Sunnyvale
- Vanceboro, NC

United States & Puerto Rico



Bay Area



East Coast



Puerto Rico



The Tech Challenge By the Numbers

Participants



42%

women/girls



54%

men/boys



1%

non-binary
person

3%

prefer not
to say



31%

of teams came from Title I low-income schools.

2022 participants said: The Tech Challenge helped me to...

93%



Listen to and
use other
people's ideas

93%



Have fun with
engineering

86%



Work better
with others

93%



Come up with
more creative
solutions to
problems

80%



Respond better
to setbacks

86%



See that you can
turn your ideas
into a reality

90%



Compare
different
solutions and
choose the
best one

79%



See how you
can solve real
world problems
with engineering

78%



Be more
interested in
a job in STEM

Participant feedback: What did they learn?

“I learned that in engineering, nothing will come on the first try, you will always have to continually experiment until you finally get the desired result.”



“I learned that listening to each other’s ideas are important.”

“From working better with my teammates to finding, fixing and getting over problems, I learned a lot from this experience. It was extremely fun, and I would love to participate with my teammates again.”



“I learned about problem-solving and how it can affect the future. I learned about teamwork because without teamwork this would have been impossible, I learned about having integrity, I learned about building/constructing, and I learned about being open-minded and why it’s a good thing.”

“Patience is important. We need to try things many, many times before they work as expected. Sometimes, accidents can teach us new things.”

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 think you guys have done a really excellent job of trying to reach out to local communities and local kids...I want to see all these kids go into technology, have a thriving career and have an opportunity to learn and discover that they actually have a passion for STEM and it’s not so scary.”

— Rosemary Baez, Executive Director, Third Street Community Center

Media Summary

Highlights Video

Virtual Awards Ceremony

Awards Ceremony YouTube Livestream

This year's awards live stream helped celebrate the accomplishments of all the participants.

Views: 1,556*

Watch time: 177 hours*

*As of June 3, 2022

Social media

Month leading up to showcase (3/29-4/29):

[The Tech Challenge Facebook](#)

Impressions: 10,553

Engagements: 864

[The Tech Interactive Facebook](#)

Impressions: 491,711

Engagements: 8,634

[The Tech Interactive Twitter](#)

Impressions: 11,015

Engagements: 335

[The Tech Interactive Instagram](#)

Impressions: 101,621

Engagements: 148

Sample posts



Press release

May 2, 2022

[Students make some noise with the 35th annual The Tech Challenge](#)

Photos from showcase

[Flickr album](#)

Weekend of showcase (4/30-5/1):

[The Tech Challenge Facebook](#)

Impressions: 3,167

Engagements: 263

[The Tech Interactive Facebook](#)

Impressions: 53,111

Engagements: 1,966

[The Tech Interactive Twitter](#)

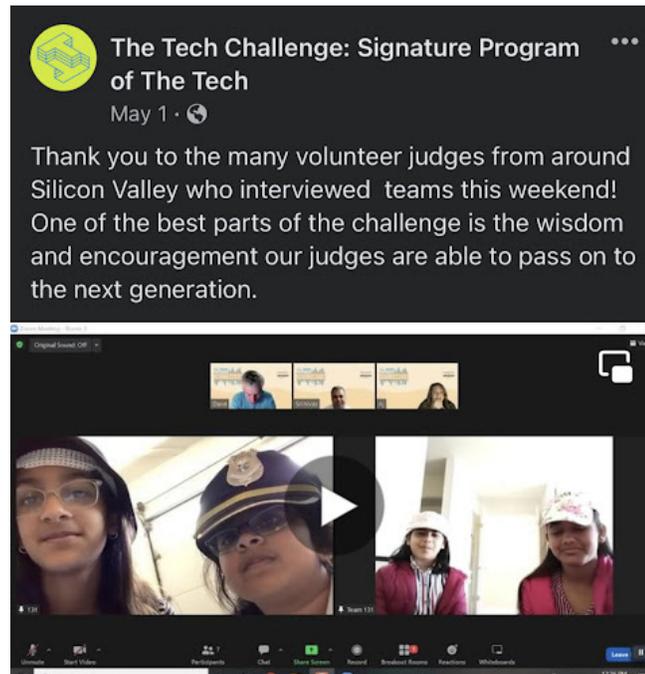
Impressions: 2,711

Engagements: 172

[The Tech Interactive Instagram](#)

Impressions: 9,503

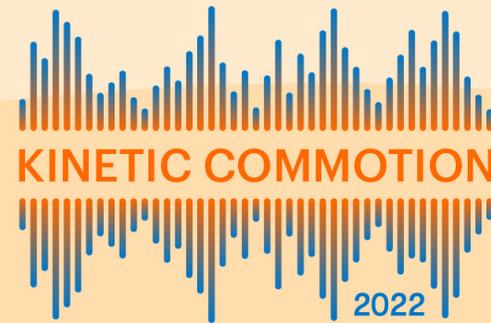
Engagements: 66



Thank you 2022 supporters!



The Tech
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PRESENTING SUPPORTER



FOUNDING SUPPORTERS



Barbara and
Bill Heil



ThermoFisher
SCIENTIFIC

PRINCIPAL SUPPORTERS

accenture



arm
Video Contest Supporter

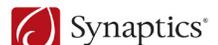


GIBSON DUNN



Mayfield

RENESAS



VIRTUAL PLATFORM PARTNER



UNDERWRITING SUPPORTERS



Deloitte.



David H. Liu
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INVESTING SUPPORTERS

Abracon
Eileen and Chris DiGiorgio
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Samsung
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