



The Tech
Challenge

cosmic
2024 QUEST

Presented by
Amazon

2024 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 38th year, this program continues to embody The Tech's mission by inspiring the next generation of innovators. Over 40,000 students have participated since the program's inception.

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 2024, corporate and individual supporters joined us as volunteers and helped make the Showcase a big success. This year, we had volunteers from **23andMe, Accenture, Adobe, Aerodyne Industries LLC, Agilent, Amazon, AMD, Apple, Applied Materials, Arista Networks, Arm, Bio-Techne, Blue River Technology, CASI, City of Mountain View, Crisis Text Line, Dell Technologies, Deloitte, Ford Motor Company, Genentech, Globalfoundries, Google, Guardant Health, Hathaway Dinwiddie Construction Co., History San Jose, Hitachi America, Hitachi Vantara, Infinera, Intel, Lawrence Livermore National Laboratory, LinkedIn, Lockheed Martin, Lyten, Marvell Semiconductor, Mass 4 Service, Inc., Morgan Hill Unified School District, Nokia, Northrop Grumman, Nvidia, NXP Semiconductors, Oakland Museum of California, Oracle, Papros Inc, Permira, PwC, Qualcomm, Roche Diagnostics, Samsung, San Jose State University, Seagate Technology, Inc., Seer, Inc., Silicon Valley Education Foundation, SJULTRA, Inc., Snowflake, Sonatus, Stanford University, Star One Credit Union, Swing Education, Synaptics, Tech CU, Tesla, The Tech Interactive, Thermo Fisher Scientific, U.S. Coast Guard, University of Arizona, Ultraeum, Inc., Valley Water, Verily, Western Digital, Zoom Video Communications and Zygo Corp.** 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

Our 37 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 1,200,000 youth this past year. In Kenya, we trained over 120 educators in 13 schools and are anticipating at least 2,700 students attending the Rock the Ravine 2024 Showcase. 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

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

Theodore Lamour
Vice Chair

Courtney Blum
PwC

Greg Brown
Program Founder
STEM Consultant

Prasad Chaparala
Amazon

Dan Christman
Marvell Technology, Inc.

Chris DiGiorgio
The Tech Board

John Decker
EY

Aymeric Gisselbrecht
Stealth AI
The Tech Board

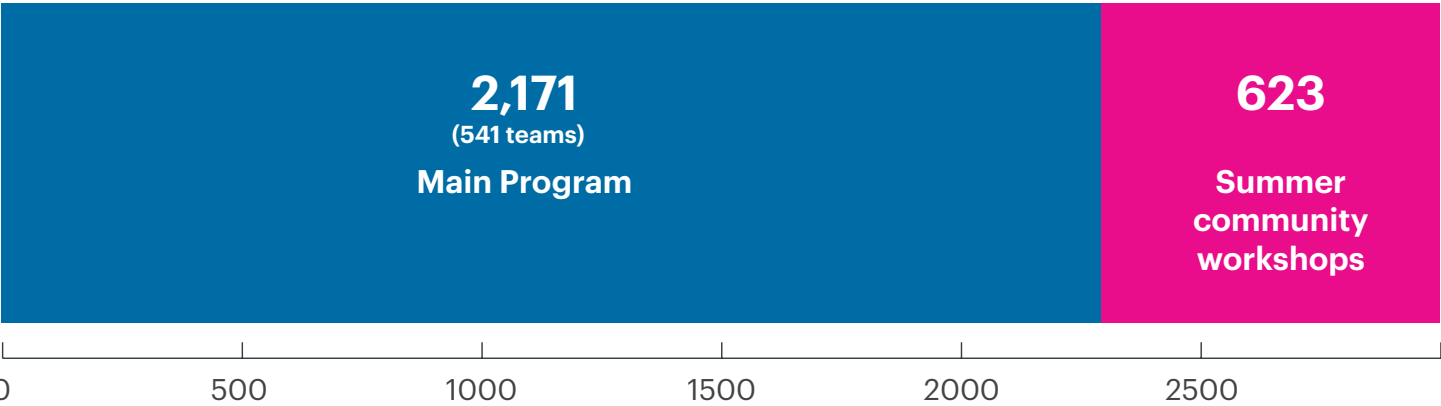
Bill Heil
The Tech Board

Brendan Ittelson
Zoom

Sheila Rohra
Hitachi Vantara

Lindo St. Angel
Amazon
The Tech Board

Total participants served: 2,794

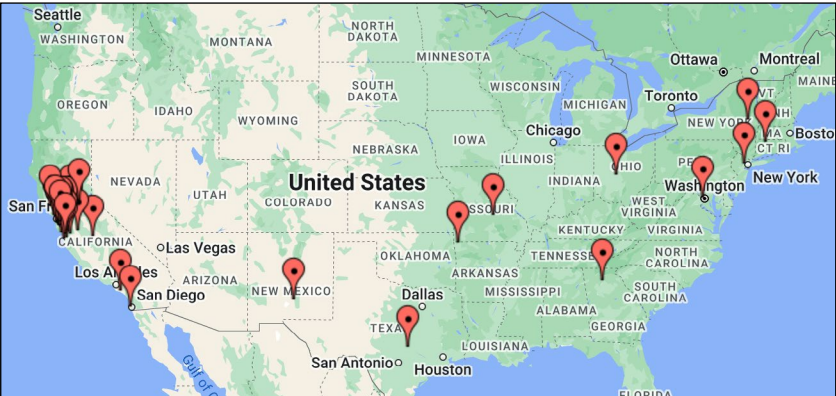


Dual Enrollment!

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

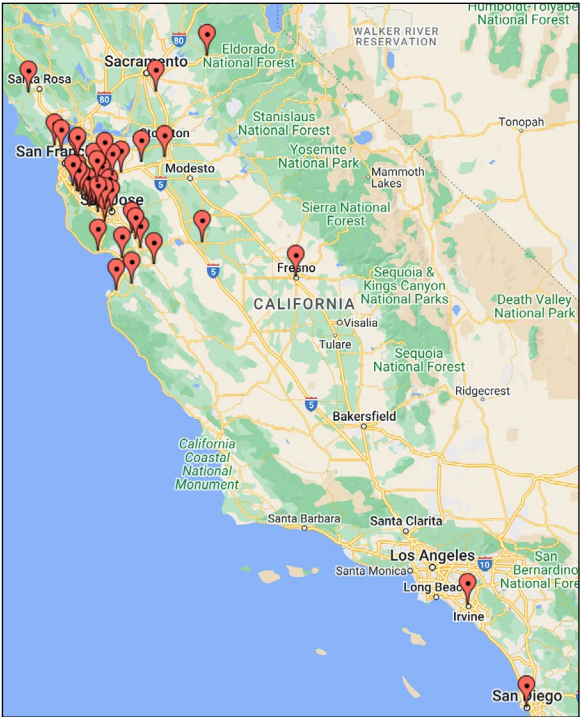
2024 participants came from

United States



- | | | |
|-----------------|-----------------|--------------|
| Alameda | Hollister | Palo Alto |
| Arlington, VA | Irvine | Placerville |
| Austin, TX | Lathrop | Pleasanton |
| Belmont | Livermore | Redwood City |
| Bentonville, AR | Los Altos | Rolla, MO |
| Campbell | Los Altos Hills | Salinas |
| Corte Madera | Los Banos | San Carlos |
| Cumming, GA | Los Gatos | San Diego |
| Cupertino | Menlo Park | San Jose |
| Dublin | Mescalero, NM | San Martin |
| Elk Grove | Milpitas | San Mateo |
| Foster City | Morgan Hill | San Ramon |
| Fremont | Mountain House | Santa Clara |
| Fresno | Mountain View | Santa Cruz |
| Gilroy | Newark | Saratoga |
| Hayward | Oakland | Seaside |

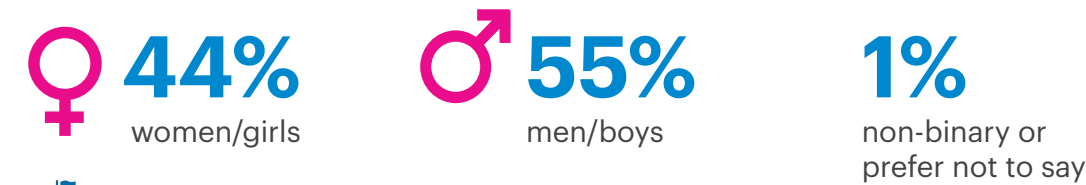
California



- | |
|-------------|
| Sebastopol |
| Sunnyvale |
| Tiburon |
| Union City |
| Watsonville |
| Windsor |

The Tech Challenge By the Numbers

Participants



2024 participants said: Tech Challenge helped me to:



Participant feedback: What did they learn?

"I learned how to become a better problem solver. Each setback helped me learn how to think better scientifically and logically."

"We learned how we could use small ideas for big impacts in the real world."

"I learned to use failure to build new ideas and to not give up when something doesn't work."

"We learned a lot about how to respond to setbacks and come up with improved ideas based on what we learned from our failures."

"I learned that when you set your mind to something and communicate properly, you can accomplish things that might seem impossible."

"I learned about engineering and testing out different ideas to get one optimal design."

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."

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

"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

"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



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 Coverage



Videos

[Highlights Video](#)
[Short Video](#)



Photos from Showcase

[Flickr album](#)



Media Coverage

Total Reach: 104,321

April 28, 2024

San Jose Mercury News, "Crafty Students Showcase Devices in Tech Challenge"

Reach: 93,000

Media Value: \$26,720.19

April 28, 2024

KRON4, "[Tech challenge in San Jose returns as thousands of students show off their engineering skills.](#)"

Local Market Viewership: 11,321

Local Publicity Value: \$2,971.76

Press Release

Total Potential Audience: 162,890,930

287 Pickups, 1517 Click Throughs

4,120 Release Views & Hits

["Space-Themed Challenge Propels 37th Annual Tech Challenge to New Heights"](#)

THE MERCURY NEWS • SUNDAY, APRIL 28, 2024

Local News

MORE LOCAL NEWS • THE MERCURYNEWS.COM

THE TECH INTERACTIVE



PHOTOS BY SHANE HAMMOND — STAFF PHOTOGRAPHER

From left, Shania Smith, Dasha Tingey and Amelia Nair, all fourth graders from San Jose, dressed as "space squirrels," do a cheer before they compete in The Tech Challenge Final Showcase at The Tech Interactive in San Jose on Saturday.

Crafty students showcase devices in Tech Challenge



ABOVE: People gather for The Tech Challenge Final Showcase. Student contestants interview with the judges, demonstrate their devices and present their engineering journal. **RIGHT:** Mateo Alvarez, 9, of Morgan Hill celebrates during The Tech Challenge Final Showcase on Saturday. The event will continue today.



The Tech Challenge 2024 Marketing Overview

The Tech Challenge 2024 experienced a significant transformation in its approach to marketing. This strategic shift had a notable impact on the event's reach, engagement, and overall digital presence for The Tech Challenge.

Key highlights of the strategy included leveraging high-impact video content, encouraging and utilizing user-generated content (UGC), and strategically showcasing social plugs across platforms.

Social Media Impact

(*Across Instagram, Facebook, LinkedIn, TikTok)

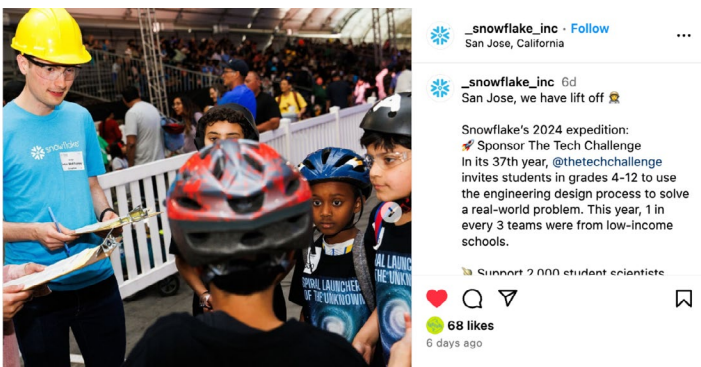
Total Posts: 100+

Total Reach: 138K+

Total Impressions: 94K+

Total Followers Gained: 500+

Corporate Sponsor Snowflake Shared Post



Example posts



Highlights

Video = High Impact

Video content was identified as a critical element of the social media strategy. By creating and sharing engaging, informative, and entertaining videos related to The Tech Challenge, The Tech Challenge program experience was more fully captured than ever before.

User-Generated Content

Participants, attendees, and supporters were motivated to share their own stories, experiences, and behind-the-scenes glimpses of the event, creating a rich, diverse tapestry of content. This approach not only amplified the event's reach beyond traditional boundaries, but also added a layer of authenticity and community spirit to the marketing efforts.

Emphasizing Social Media during Showcase

By prominently featuring social media handles, hashtags, and calls to action throughout the showcase, we made it easy for both participants and attendees to share their stories and join in the conversation.

Thanks for sharing!     



Thank you 2024 supporters!



The Tech
Challenge



Presented by
amazon

PRESENTING SUPPORTER



FOUNDING SUPPORTERS



Barbara and
Bill Heil



ThermoFisher
SCIENTIFIC
Outstanding Device
Performance Award Supporter

PRINCIPAL SUPPORTERS



Deloitte Foundation



GIBSON DUNN



HITACHI
Inspire the Next



UNDERWRITING SUPPORTERS

Abrakon
Accenture
AMD
Deloitte

First Tech Federal Credit Union
Hathaway Dinwiddie Construction Co.
Microchip Technology Inc.
Morgan Stanley

Tammy Kiely
oneZero Financial Systems
Qatalyst
Sonatus

Synaptics
Toeniskoetter Construction
Western Digital
Workday
Zoom

INVESTING SUPPORTERS

Courtney Blum & Jeff Brown
Eileen & Christopher DiGiorgio
Pawan Tewari of Goldman Sachs

Melinda Borjon Heinlein & John Heinlein
IBM
David H Liu Foundation

Northrop Grumman Corporation
Samsung Semiconductor
San Francisco Bay University

Star One Credit Union
Tech CU

TEAM SUPPORTERS

Arista Foundation
Hitachi America

Susan & Richard Roche
San Jose Water Company

Swenson
TE Connectivity

Carolyn & Greg Waters
Valley Water