Illinois High Schools Team Up with Top Companies to Develop Next-Generation Solutions

More than 1,000 students from 27 high schools developed new innovations through annual Illinois Science and Technology Institute program

CHICAGO – April 24, 2019 – This academic year, more than 1,000 students from 27 Illinois high schools teamed up with 17 of the state's most innovative companies to address some of the most pressing business and community challenges as part of the Illinois Science and Technology Institute's (ISTI) STEM Challenge Program.

How will artificial intelligence be utilized to benefit your community? How will innovation drive improvements to transportation and mobility, energy usage and the construction site of the future? How will technology improve the lives of people impacted by various medical conditions? On April 26, one team from each high school will present their innovative solutions at the sixth annual STEM Challenge Showcase at Google Chicago.

During the last six months, high school students from North Chicago to Peoria, worked alongside company mentors from AbbVie, Allstate, Astellas USA Foundation, Baxter International Inc., Caterpillar, Cisco, CME Group, ComEd/Illinois State University, Dell, Horizon Pharma, IBM, Microsoft, Motorola Mobility, Motorola Solutions Foundation, Northrop Grumman, Takeda and Uptake - after being presented with a business challenge facing the company.

Working in teams, students went through a research and design thinking process to come up with new ideas, products, prototypes and innovations. Company mentors provided valuable feedback and guidance over the course of several months through in-person visits and virtual communication through the ISTI's Mentor Matching Engine, an online collaboration tool.

More than 100 students at North Chicago Community High School worked directly with 60 AbbVie mentors to develop innovations to improve health literacy in their community, which included mental health, domestic violence and vaping.

Students at Solorio Academy, Richwoods and Williamsfield high schools worked with Caterpillar mentors in Chicago and Peoria to design a safer, more efficient construction site, which included developing a smart hardhat to detect and report near misses between workers and equipment; and a smart electric glove to detect power levels and prevent electrocutions.

Meanwhile, students at Highland Park High School and Perspectives/IIT Math and Science Academy teamed up with Horizon Pharma. One team of students designed a mobile app for people impacted by Thyroid Eye Disease to help diagnose, monitor and track the disease.

"Working with industry professionals to envision a potential solution for a real-world problem is a transformative experience for a young person," said Mark Harris, president and chief executive officer of the Illinois Science and Technology Institute. "Our goal is to help build Illinois' talent pipeline by providing authentic learning experiences that open up the walls of the classroom and make these vital industry connections to cultivate the next wave of problem solvers and innovators."

"At AbbVie, we know that mentoring is an incredibly important part of the educational experience," says Melissa Walsh, vice president for corporate responsibility & global philanthropy at AbbVie. "Through the ISTI STEM Challenge program, we have seen some of our brightest area high school students develop creative solutions to real world challenges and dramatically improve their self-confidence – skills that will help put them on a path for future success."

Over the last five years, ISTI's STEM Challenge and Mentor Matching Engine program has reached more than 6,500 students at more than 80 high schools across the state. Roughly 75% of students reported working with a STEM professional for the first time through this program. The programs have helped to build and improve confidence in life-long employability skills, like teamwork, communications, problem solving, and decision-making; and help to demystify in-demand careers and create new lines of sight to pathways in STEM fields.

Event Details: Students from 27 high schools across Illinois will present their innovative projects in four-minute presentations followed by Q&A led by their partner company. Students, teachers, mentors, and ISTI staff will be available for broadcast and print interviews.
Date: Friday, April 26th, 2019
Time: 8 a.m. - 1 p.m., breakfast and lunch served
Location: Google Chicago, 320 N Morgan St., #600, Chicago, IL. 60607

About the Illinois Science and Technology Institute:
The Illinois Science & Technology Institute (ISTI) is a STEM-focused nonprofit that provides programs and partnerships to connect companies and universities with classrooms. ISTI supports schools and companies who want to impact the next generation of innovators to build a deeper and more inclusive talent pipeline. We are a bridge between the classroom and the real world that facilitates collaboration between students and industry mentors. For more information, visit www.istcoalition.org/education-programs/ and follow us on twitter @istcoalition

2018-2019 Challenges and Partnerships

AbbVie Foundation: AbbVie challenged its students to design and recommend an innovation or system that would improve health literacy and overall wellness in the North Chicago community. *North Chicago Community High School*

Allstate: With the help of data collected by their company, Arity challenged its students to rethink and improve upon the efficiency and safety of everyday mobility and transportation. *Lane Tech College Prep*

Astellas USA Foundation: Focusing on one of the following investigational areas – aiding allergy prevention, advancing cell therapy for eye diseases, or tackling muscle diseases – Astellas challenged its students to create an innovation that improves the patient experience. *Buffalo Grove High School*

Baxter International Inc.: Students were asked to improve and sustain the lives of patients around the world through Baxter's three challenge statements; 1: Innovate the way developing countries receive Baxter products or train clinicians; 2: Redesign a Baxter product to make it more accessible for home use; and 3: Create a campaign that engages a chosen community with the prevention and/or treatment of kidney disease. *Muchin College Prep, Instituto of Health Sciences Career Academy, Lindblom Math and Science Academy*

Caterpillar, Inc: STEM Challenge 1: Identify an authentic issue by researching an industry, technology, and business segment within Caterpillar and develop a solution for the construction site of the future. *Solorio Academy High School*
STEM Challenge 2: Design a product or application to aid CAT workers, equipment, technology, or outcomes, specifically pertaining to job site safety and efficiency. *Richwoods High School, Williamsfield High School*

CME Group: Develop a creative solution to engage young people in understanding the importance of futures markets with an emphasis on futures and options, trade and risk management, or blockchain. *Von Steuben Metropolitan Science Center.*

Cisco: Innovate the future of public transportation, by using sensor technology and the Internet of Things to create safer, smarter, more integrated systems. *Michele Clark Academic Prep Magnet High School*

ComEd in Partnership with Illinois State University: The energy challenge, hosted by Illinois State University and carried out by ComEd, asked students to design and develop solar powered innovations that support the Community of the Future. This community leverages smart grid technology and related services to address community needs and improve the lives of local residents. *Downers Grove North High School*

Dell: Dell challenged students to identify and address digital inequality in their high school and others to prepare students for the future workforce. *Chicago Vocational Career Academy*

Horizon Pharma: Improve the experience for those people impacted by Thyroid Eye Disease, a rare condition associated with Graves' disease. *Highland Park High School, Perspectives/IIT Math and Science Academy*

IBM: Identify a pervasive issue within your community using data collection and analytics, and develop an innovative solution using Watson and other IBM tools. *Sarah E Goode STEM Academy*

The Lenovo Foundation: The Lenovo Foundation challenged its high school partner to redesign the smartphone. The students could either start from scratch, create an app or design a Moto Mod. *Gwendolyn Brooks College Preparatory Academy*

Microsoft: Use AI technology to develop an innovation to benefit your community. *Lake View High School, Foreman College and Career Academy, Corliss High School, Gurdon S Hubbard High School, Infinity Math, Science & Technology High School*

Motorola Solutions Foundation: Innovate a product or solution for paramedics to reduce the time it takes to collect vital and necessary patient information during an emergency call while rendering care, and decrease the opportunities for error when they have to transfer the collected patient information to hospitals and doctors. *Chicago Tech Academy High School*

Northrop Grumman: In this simulated disaster, students operate a small drone or quadcopter to deliver mock provisions to stranded individuals in a flood. *Palatine High School, Wheeling High School*

Takeda Pharmaceuticals: The students were asked to identify and solve a problem that a patient may encounter in one of the three Takeda therapeutic areas: oncology, gastroenterology (GI), and neuroscience. *Evanston Township High School, Crane Medical Preparatory High School*

Uptake: Student Union, a platform developed by Uptake, connects low-income and first-generation college students with data to guide them through the college application process. Uptake challenged ETHS students to identify what factors contribute to and help to predict student success. *Evanston Township High School*