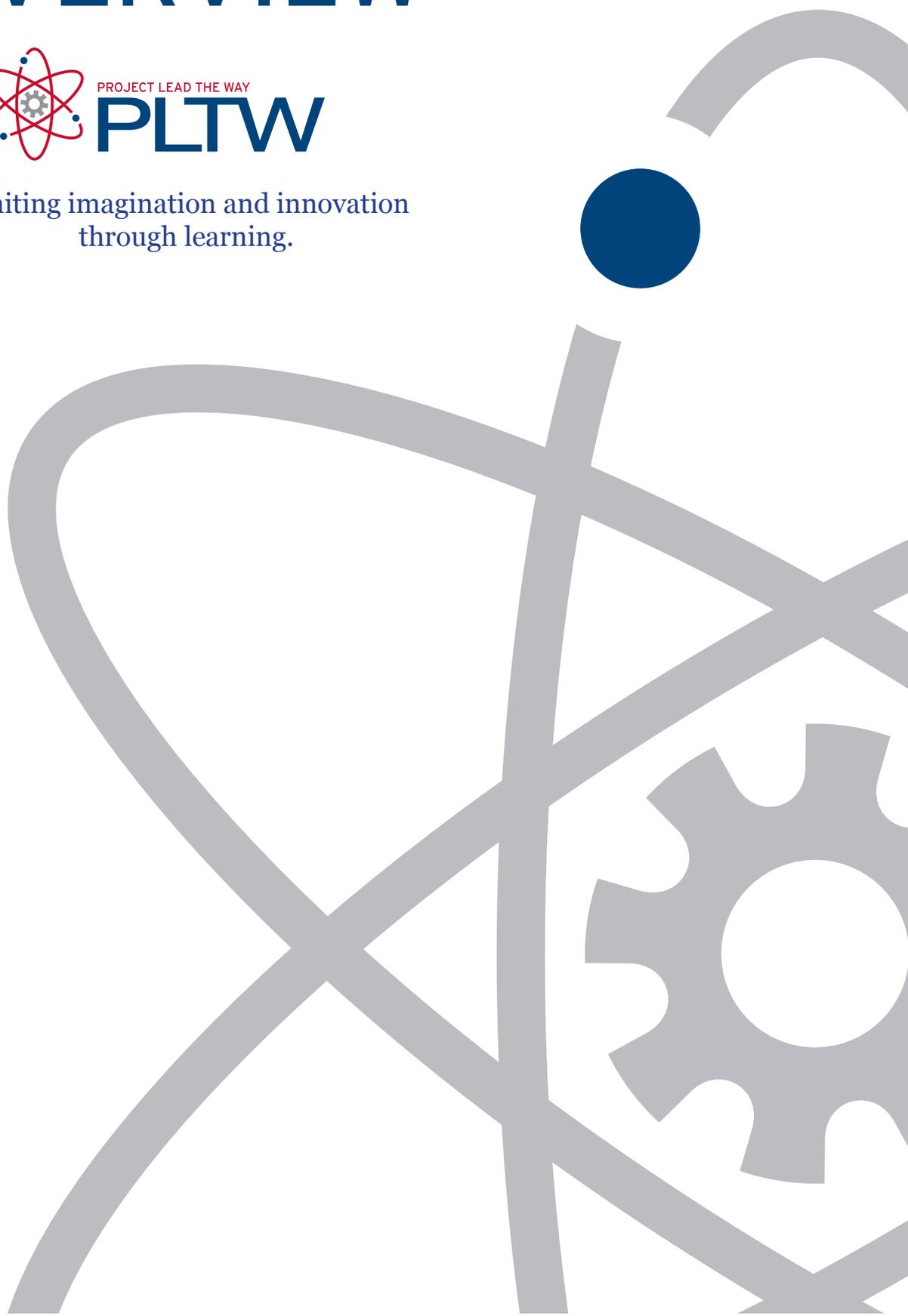


# OVERVIEW



Igniting imagination and innovation  
through learning.





### MISSION

Project Lead The Way's (PLTW) mission is to ensure that America succeeds in the increasingly high-tech and high-skill global economy by partnering with middle schools and high schools to prepare students to become the most innovative and productive in the world.

### OVERVIEW

PLTW, a 501 (c)(3) non-profit organization, is the nation's leading provider of rigorous and innovative Science, Technology, Engineering and Mathematics (STEM) curriculum for schools. PLTW's hands-on, Activities-, Project-, Problem-Based (APPB) comprehensive curriculum is aligned with relevant national standards and is collaboratively developed and updated by subject matter experts – including teachers, university educators, engineering and biomedical professionals, and school administrators. PLTW's programs emphasize critical thinking, creativity, innovation and real-world problem solving. The hands-on learning engages students on multiple levels, exposes them to areas of study that they may not otherwise pursue, and provides them with a foundation and proven path to post-secondary training and career success in STEM-related fields.

### HISTORY & IMPACT

PLTW launched in 1997 in 12 high schools in upstate New York as a program designed to address the shortage of engineering students at the college level. The non-profit organization has experienced steady growth over the years. In the 2011-12 school year, more than 4,000 middle and high schools in all 50 states and the District of Columbia will offer PLTW programs, enrolling more than 400,000 students in STEM education courses. PLTW has also trained more than 10,500 teachers to instruct its courses.

### RESULTS

- PLTW alumni are studying engineering and technology at five to ten times the average rate of all students.
- PLTW students have a higher retention rate in college engineering, science and related programs than other students in those areas.
- 97% of PLTW seniors intend to pursue a four-year degree or higher, whereas the national average is 67%.
- 80% of PLTW seniors say they will study engineering, technology, or computer science in college, whereas the national average is 32%.
- PLTW students achieve significantly higher scores in reading, mathematics and science than Career and Technical Education (CTE) students in the same schools in similar CTE fields.



### THE PLTW NETWORK

PLTW teachers and school counselors are able to access a nationwide support network comprised of PLTW's national staff, master teachers, university affiliates, corporate and philanthropic sponsors and state leaders (education professionals employed by state Departments of Education). PLTW has more than 40 affiliate colleges and university partners that offer students college-level recognition, such as college credit, admissions preference and scholarships, for completing certain PLTW courses in high school. These universities also provide an intensive two-week professional development course during the summer that teachers are required to complete before teaching a PLTW course. PLTW's corporate and foundation partners and STEM associations and organizations offer materials, mentorships, technology, equipment and grants, as well as internships that allow students to see firsthand how their classroom learning applies to the real world.

### NATIONAL RECOGNITION

#### U.S. Secretary of Education Arne Duncan

"...there are great models of the new CTE succeeding all across the country, from the Career Academy Movement, to Project Lead the Way's pathway to engineering curriculum, to Wisconsin's Youth Apprenticeship Program." <sup>1</sup>

#### Harvard School of Education

"In recent years, we've witnessed the emergence of a growing number of rigorous, high-quality national models that demonstrate what career and technical education can achieve in the 21st century. Take Project Lead The Way...this approach is clearly engaging students. Some 80 percent of those who complete the program say they will study engineering, technology or computer science in college, and their retention rate in these courses is higher than that of students who did not complete PLTW." <sup>2</sup>

#### National Academy of Engineering, National Academy of Sciences and the Institute of Medicine

"The National Academy of Engineering, the National Academy of Sciences, and the Institute of Medicine recognized PLTW in a 2005 report, *Rising Above the Gathering Storm: Engaging and Employing America for a Brighter Economic Future*, as a model for its recommendation of creating "K-12 curriculum materials based on world-class standards."

#### U.S. Secretary of State Hillary Clinton

U.S. Secretary of State Hillary Clinton introduced PLTW to her fellow Senators in a 2005 letter in which she described PLTW as a "promising program that is both changing the lives of middle and high school students nationwide and helping to build a workforce that meets the needs of the 21st century."

#### Congressman Paul D. Tonko (NY)

"Project Lead The Way is truly living up to its name ... offering untold opportunities to so many students to enter into the exploration of science and technology careers...If we're going to win this global race, we need to enter it with investments in human infrastructure, capital infrastructure, and physical infrastructure, and the way to begin with that is to really introduce it into the learning curve. I wish I had programs like this when I was in high school." <sup>3</sup>

#### Aerospace Industries Association and National Defense Industry Association

The premier trade associations representing the nation's major aerospace and defense manufacturers officially endorsed PLTW in 2006.



### Bayer Corporation

PLTW was named a K-12 Best Practice Program by Bayer Corporation's Making Science Make Sense initiative in its *Planting the Seeds for a Diverse U.S. STEM Pipeline: A Compendium of Best Practice K-12 STEM Education Programs*, which was updated in 2010.

### CURRICULUM & APPROACH

PLTW's approach, called activities-, project-, and problem-based (APPB) learning, centers on hands-on, real-world projects that help students understand how the information and skills they are learning in the classroom may be applied in everyday life. PLTW's programs are comprehensive and turnkey. The curriculum is standards-based, yet flexible and customizable so that schools and school districts can meet their curricular needs. PLTW offers three different programs:

**Gateway To Technology (GTT)**, intended for grades six through eight, is offered as independent, nine-week units that explore aerospace, energy, the environment, modeling, robotics, technology and other STEM-related topics. The activities-oriented curriculum challenges and engages the natural curiosity of students. GTT units, taught in conjunction with a rigorous academic curriculum, are designed to spark an interest in STEM subjects and prepare students for further study in high school.

**Pathway To Engineering (PTE)**, intended for grades nine through twelve, explores the design process and links STEM principles to relevant problem-solving activities. PTE courses complement traditional mathematics and science courses and can serve as the foundation for STEM-centered or specialized academies. PTE is designed to prepare students to pursue a post-secondary education and careers in STEM-related fields

**Biomedical Sciences Program (BMS)**, intended for grades nine through twelve, explores human medicine, bioinformatics, cell biology, genetics, disease and other biomedical topics through relevant problem-solving activities. BMS courses complement traditional science courses and can serve as the foundation for STEM-centered or specialized academies. BMS is designed to prepare students to pursue a post-secondary education and careers in the biomedical sciences.

1. <http://www.ed.gov/news/speeches/new-cte-secretary-duncans-remarks-career-and-technical-education>
2. [http://www.gse.harvard.edu/news\\_events/features/2011/Pathways\\_to\\_Prosperty\\_Feb2011.pdf](http://www.gse.harvard.edu/news_events/features/2011/Pathways_to_Prosperty_Feb2011.pdf)
3. [http://www.southcolonieschools.org/CCHS/Stories10-11/CCHS\\_tonkotourPLTW.cfm](http://www.southcolonieschools.org/CCHS/Stories10-11/CCHS_tonkotourPLTW.cfm)