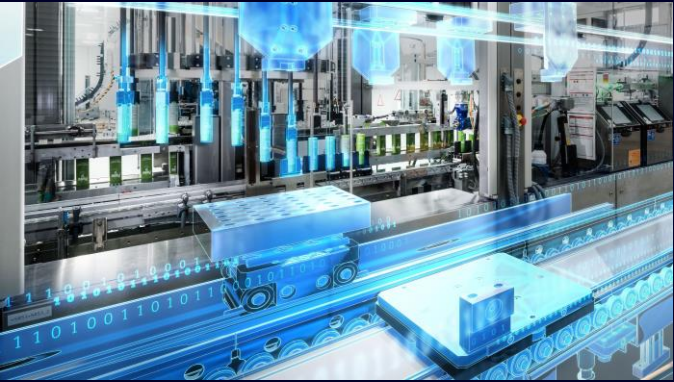


Building a brighter
tomorrow through
better **STEM**
education today



Siemens is a global leader in engineering and innovation



Industrial software and automation



Passenger trains, rail electrification and automation



Smart building and power grid technology



Medical equipment

175 years standing for engineering, excellence, innovation and quality

€78.9 billion in revenue 2025

317K+ employees

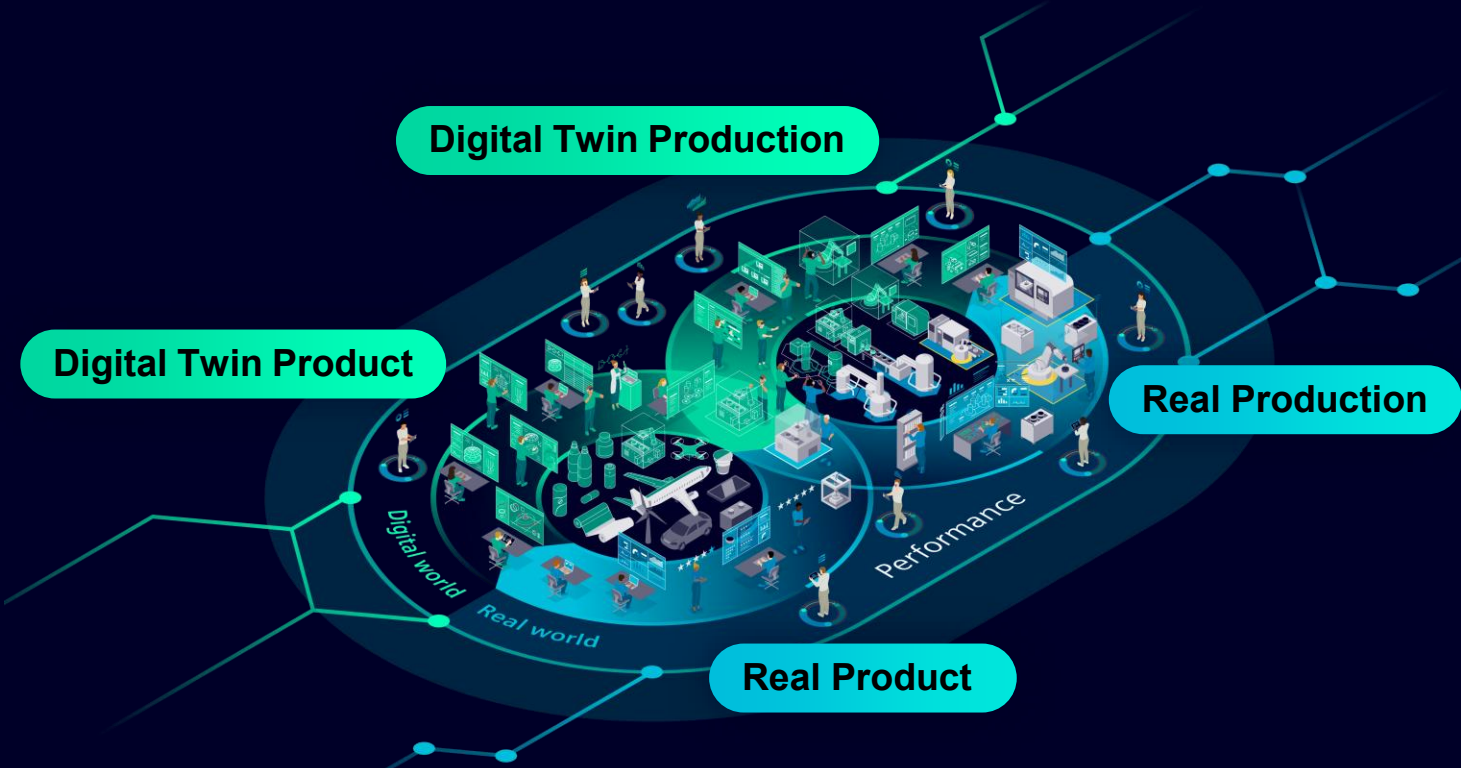
Digital technologies that revolutionize industries and help companies transform their businesses

Partnerships with education to ensure students are prepared to succeed in our technology-focused world

Siemens Digital Industries Software

#1

Industrial software



Digital technology is transforming industry

Process industries

Hybrid industries

Discrete industries



Chemicals



Marine



Glass



Food & Beverage



Electronics



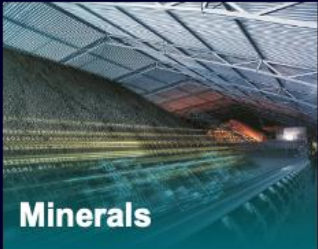
Aerospace



Automotive



Water & Wastewater



Minerals



Pharmaceuticals



Batteries



Wind



Machine building



Intralogistics



Oil & Gas



Power & Utilities



Fiber



Tire



Additive manufacturing



Cranes



Robotics

Siemens Partners with Education



The estimated global skilled worker shortage by 2030 is **85M**, potentially resulting in **\$8.5T in lost revenue**.

Source: Korn Ferry



Our world needs more **STEM** professionals and engineers

Educators need **easy to use** and **engaging tools** for learners

Siemens has **solutions**

Siemens workforce strategy addresses the entire student journey Solutions at every level of learning!



Primary & Secondary

- Learning application
- Project-based curriculum
- Industry Software
- Training & professional development
- Industry certification
- Micro credentials
- STEM Competitions

Higher Education

- Curated content
- Industry Software
- Software Training
- Industry Certification
- Micro credentials (ABET accredited)
- STEM Competitions
- Internships / Apprenticeships

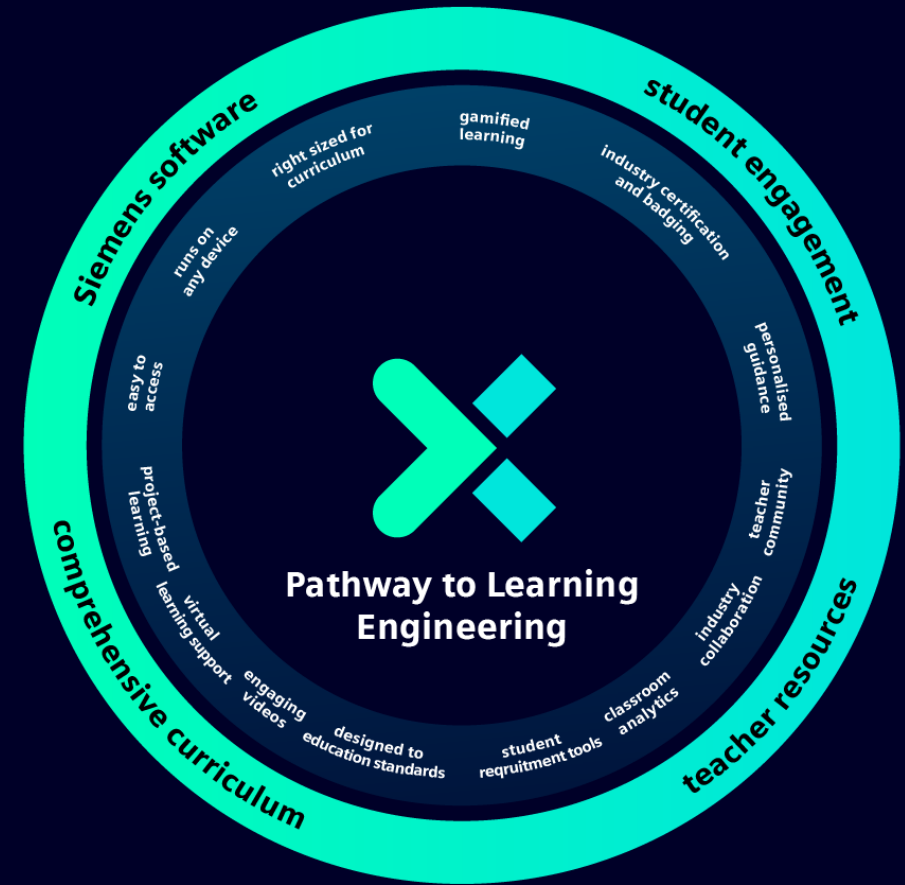
Workforce

- Industry Software
- Software Training
- Industry Certification
- Micro credentials (ABET accredited)
- Reskilling / Upskilling

Introducing **Siemens Pathway to Learning Engineering**

Siemens empowers educators

Pathway to Learning Engineering (PLE) is a **turnkey learning application empowering educators to inspire and engage students** to learn more about the field and fundamentals of engineering and STEM



Siemens Pathway to Learning Engineering

Empowering students to create, solve and lead



- **Comprehensive Curriculum**

Project-based curriculum and aligned learning pathways; age-appropriate modes for ages 10–18 and cross-curricular projects supporting creativity, design thinking and problem-solving.

- **Educator Resources**

Ready-to-deploy lesson plans with objectives and rubrics, formative/summative assessments, step-by-step teacher guides, tutorials and ongoing professional development from local partners to enable non-specialist teachers.

- **Siemens Software**

Industry-grade engineering tools, project management, and industry-recognized credentials providing a professional-level ecosystem that mirrors modern engineering to connect classroom learning and career readiness.

- **Industry Certification & Student Engagement**

Real-world hands-on projects and digital learning education trends bridge the digital skills gap and create a vibrant classroom where collaboration and problem-solving thrive.

K-12 Curriculum development tenets

Aligned to project-based learning gold standard and the Engineering Design Process

1. **Standards Aligned learning goals:** that integrate engineering practices, content knowledge and transferable skills
2. **Challenging Problems or questions:** grounded in an authentic engineering context with clear criteria and constraints
3. **Sustained inquiry:** planned through research, analysis, testing and iteration within the engineering design process
4. **Student Voice and Choice:** embedded in design decisions, solution pathway tools & presentation methods
5. **Planned instruction and scaffolding:** including targeted mini lessons, modeling and just-in-time skill development
6. **Authentic assessment:** aligned to performance evidence through prototyping, documentation, iteration, and communication



Secondary School Curriculum (*recommended ages 14-18*)

Four sequential, industry aligned, comprehensive and integrated courses



Engineering Design – R7R0

- Students practice the full engineering design process and learn to frame engineering problems, run iterative design cycles, document decisions in an engineering notebook, and deliver team-tested prototypes ready for production using Designcenter NX.

Manufacturing & Automation – R7R1

- Students design for manufacturability, generate CAM outputs, and architect automation sequences so designs move reliably from CAD to shop floor using Designcenter NX, NX CAM, and TIA Portal.

Mechatronics & Internet of Things – R7R2

- Student integrate mechanical design, sensors, control logic and networking to build, program and troubleshoot intelligent connected systems used in modern industry tools using Designcenter NX, NX CAM, and TIA Portal.

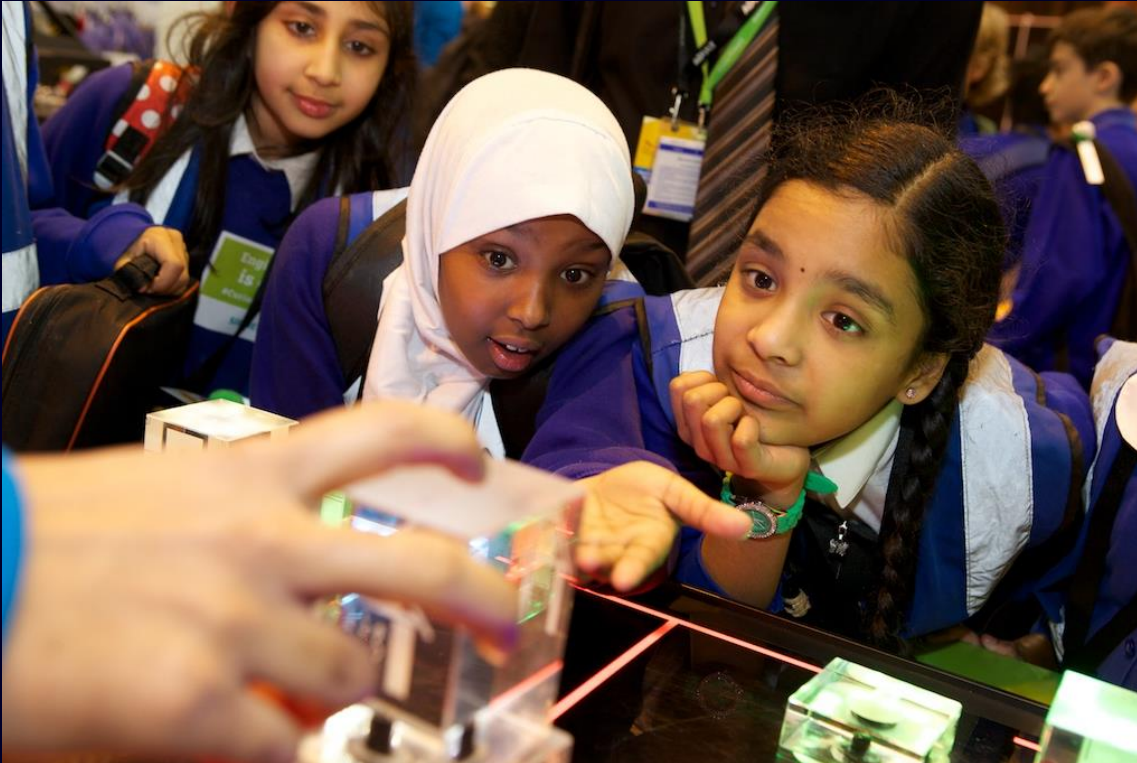
Engineering Research and Development – R7R3

- Student teams run applied R&D: market & technical research, prototyping, process optimization with Lean/Six Sigma, business planning, and present capstone solutions to real stakeholders for external validation.

SIEMENS

Lower Secondary Curriculum (recommended ages 10-14)

Exploring the World of Engineering – coming in September 2026



The curriculum is organized into eight non-sequential courses. Each course includes *level 1, level 2, and level 3* projects that take between 10-16 hours to complete.

- **Designing the Future**
- **MFG Automation Technology**
- **Autonomous Electric Vehicles**
- **Aerospace Technology**
- **Energy Management**
- **Informatics**
- **Biomedical Manufacturing and Engineering**
- **Artificial Intelligence**

Exploring the World of Engineering Courses

- **Designing the Future**
 - Students apply the engineering design process to identify real-world problems, design innovative solutions, and create models of sustainable homes, smart products, and future cities.
- **Automation Technology**
 - Students explore how automation and mechanical systems work together to perform tasks by designing, building, and improving powered machines, assembly lines, and robotic systems.
- **Autonomous Electric Vehicles**
 - Students explore how electric power, sensors, and programming enable vehicles to move, navigate, and make decisions in modern transportation systems.
- **Aerospace Technology**
 - Students explore how forces, aerodynamics, and propulsion systems allow balloons, aircraft, and rockets to achieve controlled flight.

Exploring the World of Engineering Courses

- **Energy Management**

- Students explore how renewable energy, efficient building design, and smart grid systems help communities generate, manage, and conserve electrical power.

- **Informatics**

- Students explore how data is collected, organized, analyzed, and visualized to support decision-making in modern technology and informatics systems.

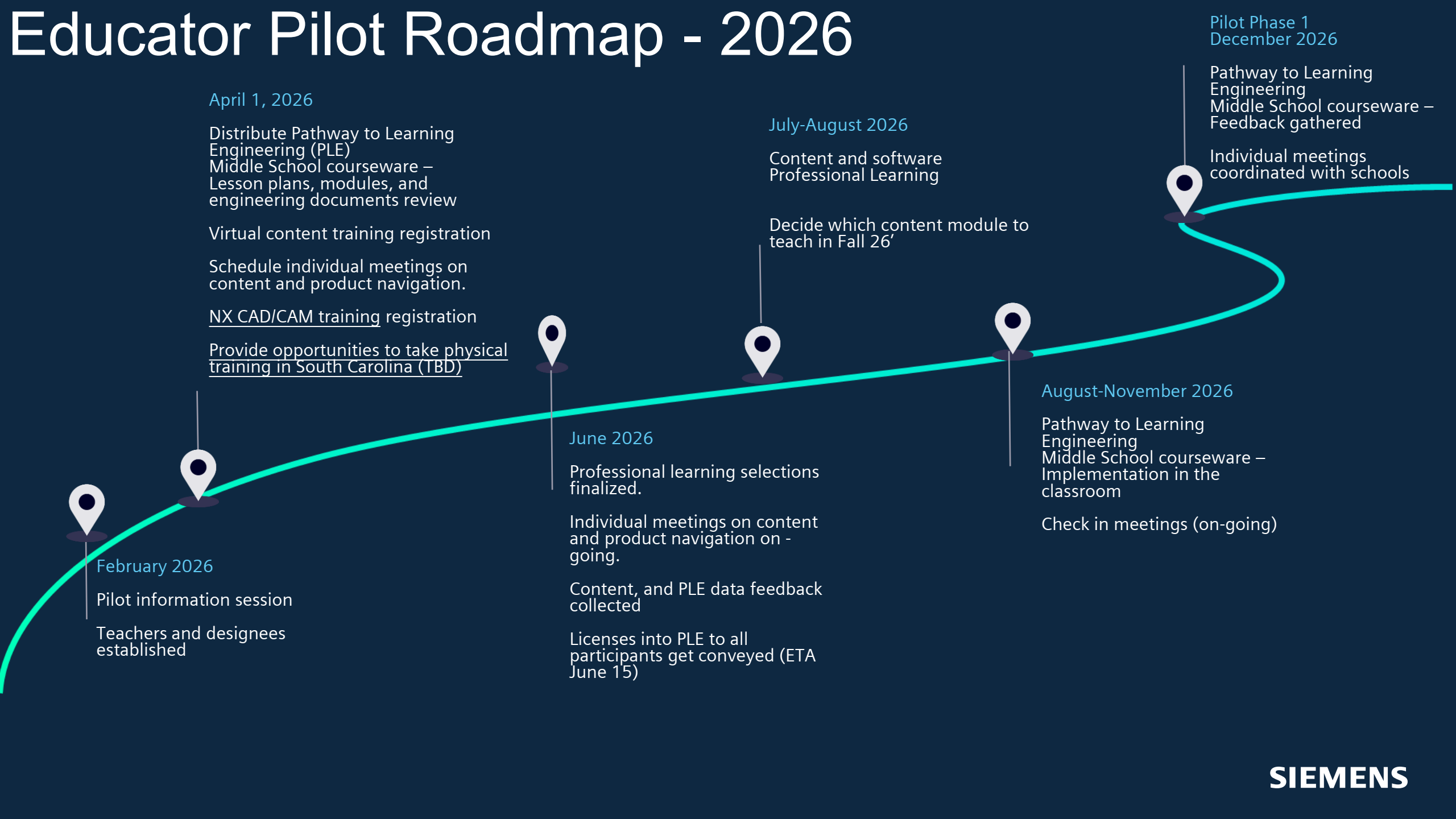
- **Biomedical Manufacturing and Engineering**

- Students explore how biomedical engineers design devices, manufacturing systems, and innovations that improve human health, mobility, and quality of life.

- **Artificial Intelligence**

- Students explore how artificial intelligence systems use data, logic, and machine learning to make decisions and solve real-world problems responsibly.

Educator Pilot Roadmap - 2026



April 1, 2026

Distribute Pathway to Learning Engineering (PLE) Middle School courseware – Lesson plans, modules, and engineering documents review

Virtual content training registration

Schedule individual meetings on content and product navigation.

NX CAD/CAM training registration

Provide opportunities to take physical training in South Carolina (TBD)

February 2026

Pilot information session

Teachers and designees established

June 2026

Professional learning selections finalized.

Individual meetings on content and product navigation on - going.

Content, and PLE data feedback collected

Licenses into PLE to all participants get conveyed (ETA June 15)

July-August 2026

Content and software Professional Learning

Decide which content module to teach in Fall 26'

August-November 2026

Pathway to Learning Engineering Middle School courseware – Implementation in the classroom

Check in meetings (on-going)

Pilot Phase 1
December 2026

Pathway to Learning Engineering Middle School courseware – Feedback gathered

Individual meetings coordinated with schools

Professional learning opportunities:

Introduction to NX X Essentials | Siemens

Pilot form

Pilot or interested to learn more form:

- <https://forms.gle/aCRwivQ1VPXxp4ah6>





Educator resources

Empowering educators

Project-problem-based curriculum

Detailed course lesson plans and planning resources

Easy student onboarding

Professional development

Community of practice



Designcenter X NX Essentials

Any device access to essential
CAD, CAM and CAE tools

- Open/modify Designcenter models and models from other CAD systems on any device.
- Streamline design with AI-predictive modeling to create your own parts, assemblies and drawings.
- Integrated CAM and Simulation tools for physical and virtual prototyping to validate design performance.
- Access, edit and share data from anywhere at anytime, even away from your desk.

Pathway to Learning Engineering Demonstration

[Pathway to Learning Engineering | Siemens](#)

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SIEMENS XCELERATOR FOR EDUCATION

Pathway to Learning Engineering

Pathway to Learning Engineering is a turnkey learning application that empowers educators to inspire and engage students to learn about engineering. The pathway includes a project-based curriculum, engineering design software, classroom management tools, and professional development resources.

[Try now](#)

[Buy now](#)



Siemens is ready to partner with you

To inspire and enable your students to lead our futures



Engineers
build our world



Educators
provide the foundation



Siemens
is ready to partner with
you to inspire and enable
your students to lead
our futures

Questions?

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Ryan.Novitski@siemens.com
K-12 STEM Instructional Manager

