

Custom Programs for Organizations



Innovation.
Leadership.
Transformation.





Expectations can be daunting. A lot is expected from today's science and technology-driven enterprise. You have to innovate constantly, build fantastic machines, make positive social impact, and develop a high degree of digital savvy, all while trying to manage your organization's capital and resources efficiently. Competing for talent is just as challenging.

Leaders from the most respected science and technology organizations trust Caltech to develop critical talent for research and development, engineering, and production network operations.

Based in a world-renowned hub for investigation and education, Caltech's Center for Technology and Management Education has a unique role to play in applying the mindset of scientists and engineers to today's business challenges. We fuse technical expertise with practical industry know-how to create extraordinary learning experiences, preparing leaders within your company to live up to the highest expectations.

Caltech CTME collaborates with company leaders across your business and HR to jointly craft unique learning programs. Our approach is tailored to produce specific outcomes for your teams and your organization as a whole—whether it's building skills and capabilities, fostering cultures for innovation, or developing leadership. With our customized programs, you can count on delivering measurable results that fit your organization.

There are three general models for how we work with client organizations.

Breakthrough Labs

Academies and Focused Programs

Accelerating Next-Generation Leadership

Breakthrough Labs

For teams who need to quickly progress through a high-stakes, sticky challenge, our creatively focused workshops—Breakthrough Labs—can achieve real impact.

Together with you, we plot out the strategic conversations necessary to define the problem, raise awareness of issues, explore options, align stakeholders, and make critical decisions. In our one- to two-day intimate events for up to 20 people, we provide a professionally facilitated experience and an environment that yields productive understanding and inspires collaboration.

- Technology Strategy
- Strategic Choice Structuring
- Futures and Systems Thinking
- Product Design Labs
- Analytics/Machine Learning / AI Action Lab
- Transformation Planning / Launch Labs





"Our custom strategic marketing program with Caltech gave me the right perspective and thinking to help drive significant improvements to a challenged business in my portfolio. With a customer-first mindset and standard tools across the company, our aligned approach to problem-solving can be a gamechanger for us."

Senior Regional Manager, Leading Energy Services Company

Academies and Focused Programs

When your organization must develop more in-depth domain expertise while also shaping your emerging high-potential leaders, Caltech CTME offers specialized experiences for corporate learning.

In 40 to 100 instruction hours, these focused certificate programs can serve as venues for upgrading analytical skills, as masterclasses for advanced topics, or as springboards to accelerate talent transitioning into new management roles. Project-based learning solidifies what participants learn and boosts knowledge transfer within your organization.

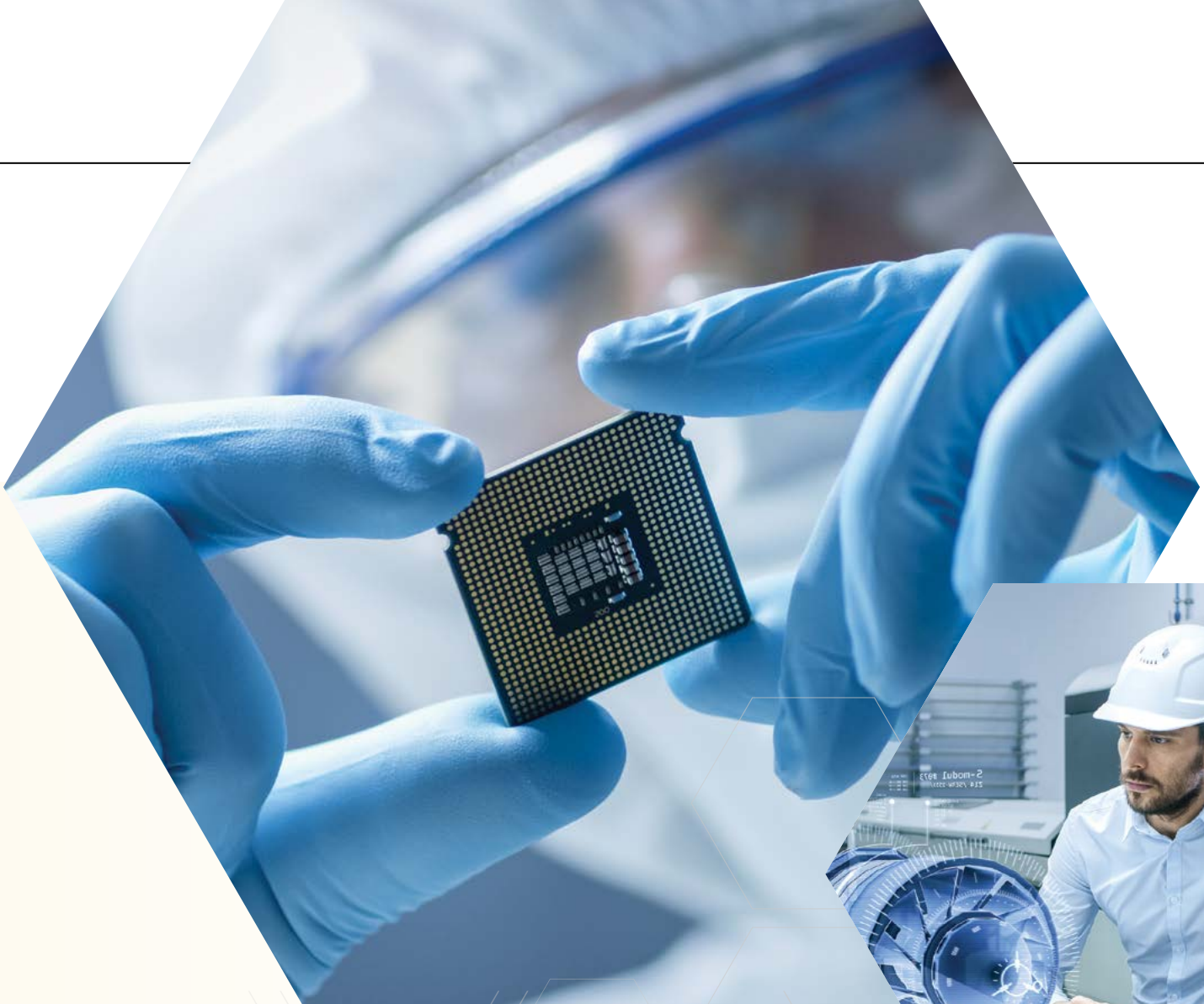
Academies are great for energizing teams as much as they are for aligning diverse participant stakeholders. This type of focused learning is particularly fruitful for the enterprise at a significant inflection point in its life cycle. Our coaching can help ease your organization through times of change.

Caltech CTME's Academies are framed for engineering-intensive industries in aerospace and defense, electronics, medical devices, biopharma, chemical, energy, transportation, and manufacturing. The scope of topics and domain depth, along with options for project-based learning, are all parts of the canvas for customization.



Example Customized Certificate Program Academies

- Cybersecurity Resilience for National Security
- Aerospace Project Management
- Airworthiness Fundamentals
- Shaping Business Strategy in Energy Markets
- Building a Culture of Systems Engineering
- Model-Based Systems Engineering
- Advanced Global Manufacturing Management



“Caltech has developed an airworthiness fundamentals professional program that is timely and tailored to bring the right big-picture perspectives to seasoned engineers as well as professionals early in their career. The six-day program can be offered where and when we need it, and it is flexible enough to allow for both US civil and military needs, while also being adaptable for Europe and other international regulatory environments.”

*Doug Davis, Director of the Office of Independent Airworthiness,
Northrop Grumman*

Accelerating Next-Generation Leadership

Our comprehensive programs for leadership are the cornerstone for Caltech CTME—specifically designed to engage and grow the 21st century-ready talent who will steer your organization through volatility, uncertainty, complexity, and ambiguity. This suite of certificate programs has distinctive pathways for researchers, engineers, technology marketers, and operations leaders to build the broad set of competencies needed to drive success for your organization and its mission.



The Accelerating Next-Generation Leadership programs at Caltech CTME are intense, multi-month learning experiences that involve 250 to 500 hours of direct guidance. While some portions can be delivered online, this is no self-paced program. Participants work in teams through small group exercises, stimulating case discussions, computer simulations, and hands-on application of skills. Most importantly, participants learn to think differently and approach problems through alternative mindsets.

At the core of these programs are client-sponsored projects developed during the program as a means to embed capabilities, facilitate shared learning, and make progress toward an assigned organizational goal. Participants build global networks and critical bonds with colleagues, rather than learning alongside strangers as in public programs. In the process, they learn to think and influence. The value can be tremendous: Team projects focused on process or product innovation have led to new revenues that exceed the Caltech CTME program investment.

The outcomes are transformative for organizations as much as for participants. While your talent benefits from newly found confidence, network growth, new toolsets, and energized thinking, your organization also gains in increased productivity, higher employee engagement, and enhanced retention. We spend time getting to know individuals in one-on-one coaching sessions. Then we measure performance and provide you feedback on participants' individual strengths and potential steps for growth.

Teams convene first at Caltech in Pasadena, California. Select operations programs start with an experience at Jet Propulsion Laboratory (JPL) mission control, as a point of inspiration and a way to frame how diverse teams tackle challenges collaboratively. After initial sessions in Pasadena, teams meet periodically at your company's key locations—regional offices, international labs, or manufacturing facilities. Excursions to other relevant locales or visits to exemplary facilities can inspire new ways of thinking about today's challenges. The programs culminate at your company headquarters, where your learning teams present potential solutions to your key leadership stakeholders.

The learning is not only infectious. It scales. Most Caltech CTME organizational clients have partnered with us for over a decade—either to cascade learning or team on new issues to impact. As successive cohorts from your organization attend these programs each year, we work with you to fine-tune, make improvements, or adapt for different roles, markets, or geographies.



Example Customized Next-Generation Certificate Programs

Next-Generation Global Supply Chain Leadership

Scope: Enterprise-wide operations across source/make/deliver activities for multinational organizations

Participant mix: Emerging leaders and professionals across the supply chain and critical supporting functional teams

Programming: Comprehensive; enterprise economic model, end-to-end fundamentals, innovation, emerging issues, leadership behaviors, teaming, complex problem-solving, and communication practices

Example Capstones: Advanced Manufacturing for Industry 4.0, Network Optimization, Supply Chain Transformation

Next-Generation Engineering and R&D

Scope: Enterprise-wide research and engineering development and support teams responsible for innovative products, platforms, and dynamic production environments

Participant mix: Emerging leaders and professionals across the design, engineering, technology development, data science, and related critical teams

Programming: Comprehensive; enterprise economic model, end-to-end fundamentals, innovation, R&D management, emerging issues, leadership behaviors, teaming, complex problem-solving, and communication practices

Example Capstones: Systems Engineering, Platform Strategies, New Product Introductions, Market- and Industry-level Innovation Challenges, Scaling Production, AI for Science Initiatives

Next-Generation Marketing for Science & Technology Innovation

Scope: Market- or enterprise-wide strategic technology marketing, branding, and commercialization operations

Participant mix: Marketing and commercialization leaders, data scientists, and market research professionals in corporate and in-field situations

Programming: Comprehensive; enterprise economic model, end-to-end fundamentals, market segmentation, customer experience, pricing, value propositions, high-performing marketing teams, and behavioral leadership

Example Capstones: Brand Introductions, Product Innovation and Launches, Global Marketing Challenges

The Caltech Experience

Leaders who aspire to innovate and execute with distinction rely on Caltech CTME. Cohorts who attend sessions at Caltech get the opportunity to visit select campus laboratories or nearby JPL, which Caltech operates for NASA. This is an atmosphere of discovery and invention, where creative minds pioneered the Richter scale, VLSI advancements for integrated circuits, DNA sequencing, and so many other breakthroughs. In Pasadena, your talent will gain inspiration and perspective from interactions with Caltech creative thinkers and doers exploring the frontiers of knowledge.

Our teaching teams have real industry insight—each of our educators bring decades of real-world experience and leadership from roles in research, engineering, venturing, commercialization, manufacturing, operations, and executive accountability at technology-driven organizations and government agencies.

Here, your talent will do more than attend a class. They will develop new mindsets, technology skills, and leadership capacity to master the complex issues that challenge your organization. Many of the corporations and government agencies that partner with Caltech in sponsored research, employment, and other productive collaborations, strategically use customized executive education to enhance their organizations.

We will work with you to make the partnership with Caltech CTME as easy as possible, providing a strong foundation for a mutually beneficial long-term relationship.



