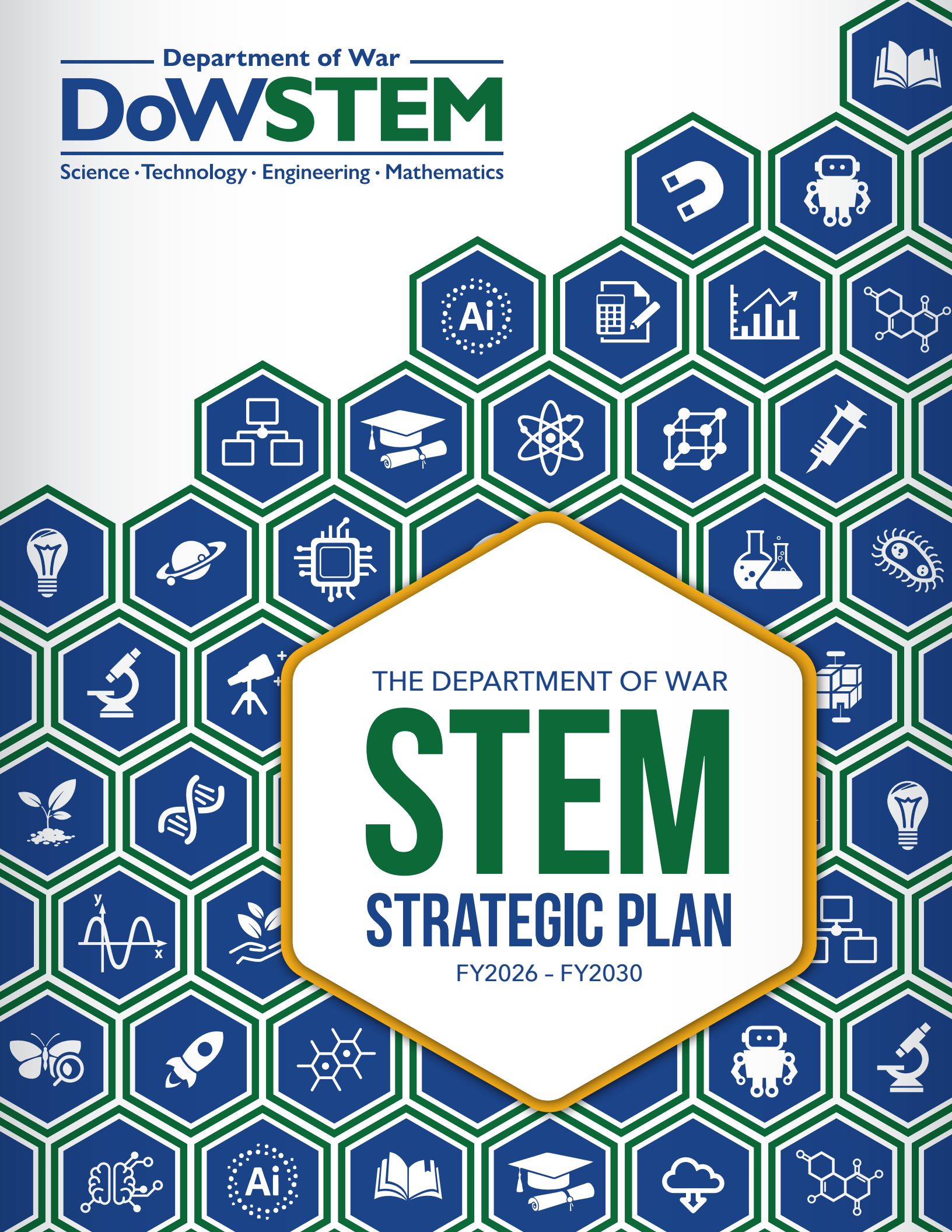
Department of War

DoWSTEM

Science · Technology · Engineering · Mathematics



THE DEPARTMENT OF WAR

STEM STRATEGIC PLAN

FY2026 - FY2030

Department of War (DoW) STEM Vision

A highly skilled and robust Science, Technology, Engineering, and Mathematics (STEM) talent pool dedicated to advancing defense innovation and U.S. national security.

DoW STEM Mission

INSPIRE, ATTRACT, and DEVELOP the Nation's STEM talent pool to advance defense superiority, maintain global technological leadership, and bolster economic strength.

Honorable Joseph Jewell

Assistant Secretary of War for Science and Technology

A Leadership Imperative

"Our strategic advantage is anchored in the powerful synergy between groundbreaking technological innovation and the exceptional STEM talent that fuels it. Our national security is fundamentally dependent on our superiority in advanced science and technology. This STEM Strategic Plan is our blueprint for preserving and extending that critical edge to safeguard America's future. By strategically investing in a robust and agile STEM enterprise, forging dynamic partnerships, and developing our workforce, we will accelerate readiness and reinforce peace and security through demonstrated strength."

DoW STEM's network of partners includes academia, industry, not-for-profit organizations, local government, and federal government.

https://dowstem.us/about/partners

Overarching Approach

Foundations of Our Strategic Plan

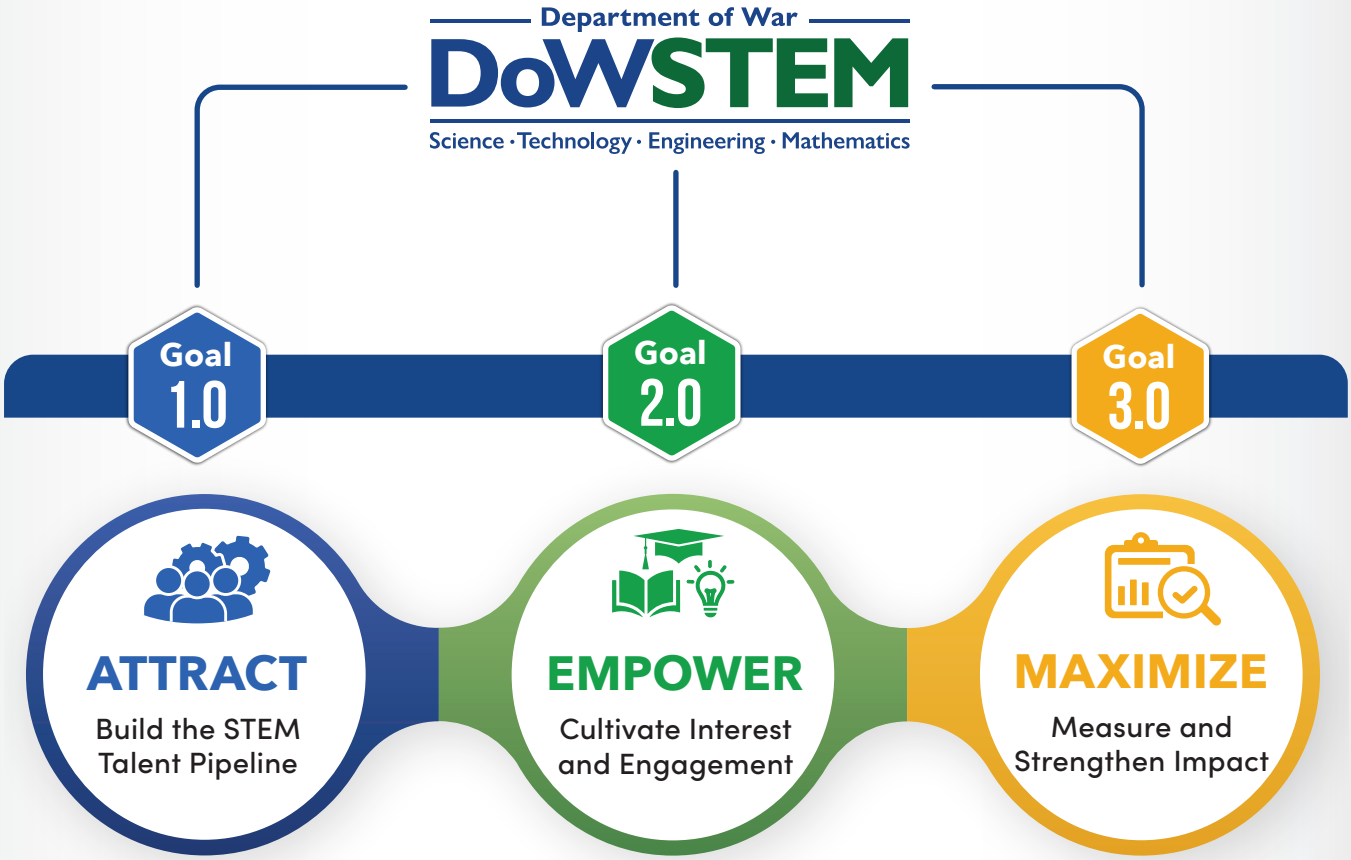
The Office of the Secretary of War (OSW) and DoW Components are committed to ushering the Department into a new age of innovative defense technologies to meet mission needs. This shared commitment drives departmental investments in attracting and developing a robust pool of high-quality STEM talent, including skilled technical talent—science and engineering professionals who do not hold bachelor's degrees. This Department-wide strategic plan outlines a comprehensive framework for achieving a collective vision and mission for STEM education, outreach, and workforce development by prioritizing and leveraging DoW's mission, needs, and resources. The Department will support the growth and training of the future STEM workforce by:

- Establishing a department-wide implementation framework to track progress toward achieving the goals and objectives of the DoW STEM strategic plan.
- Ensuring that all learners, from preK through adult, including military-connected students and veterans, can engage in Department-sponsored formal and informal STEM education, outreach, and workforce development opportunities.
- Cultivating merit-based pathways to DoW employment through STEM workforce development opportunities like internships, apprenticeships, scholarships, and fellowships.
- Fostering collaboration, communication, and coordination between STEM leaders across the Defense Research and Engineering Enterprise and Defense Industrial Base (DIB) to create a STEM workforce poised to support long-term national security priorities.
- Aligning STEM education, outreach, and workforce development opportunities with DoW priorities, including those related to key critical and emerging technologies.
- Maximizing impact by tracking, reporting, and leveraging performance outcomes across STEM education, outreach, and workforce development opportunities.

This Department's STEM Strategic Plan aims to strengthen scientific and technological innovation by supporting opportunities to:

- Increase access to high-quality, merit-based STEM education and workforce development pathways.
- Empower and train the STEM and skilled technical workforce of the future.
- Cultivate robust collaborations across the DoW STEM's network of partners to accelerate learning and innovation in emerging technological areas.

Goals and Objectives



Goal 1.0

Attract, recruit, and cultivate an exceptional STEM and skilled technical talent pool that strengthens the Nation's innovative and technological edge.

1.1 Promote opportunities and work experience programs that transition future clearable (i.e., security clearance eligible), U.S.-based STEM and skilled technical talent into defense careers.

1.2 Bolster DoW investment in STEM opportunities aligned with critical technology areas and support emerging defense priorities.

1.3 Build and strengthen partnerships with the defense industrial base, government, academia, and nonprofits to enhance pathways to STEM careers.

Goal 2.0

Empower communities through a continuum of rich learning experiences, tools, and resources for STEM education, skill building, and outreach.

2.1 Inspire engagement in STEM education and outreach for all learners, including military-connected students and veterans.

2.2 Invest in opportunities for STEM educators to ensure high-quality instruction and curriculum delivery.

2.3 Amplify awareness of DoW STEM opportunities by leveraging STEM education ecosystems, resources, partnerships, and multimedia strategies.

2.4 Encourage and enable DoW STEM professionals to engage in activities that support learning and outreach for students and educators.

Goal 3.0

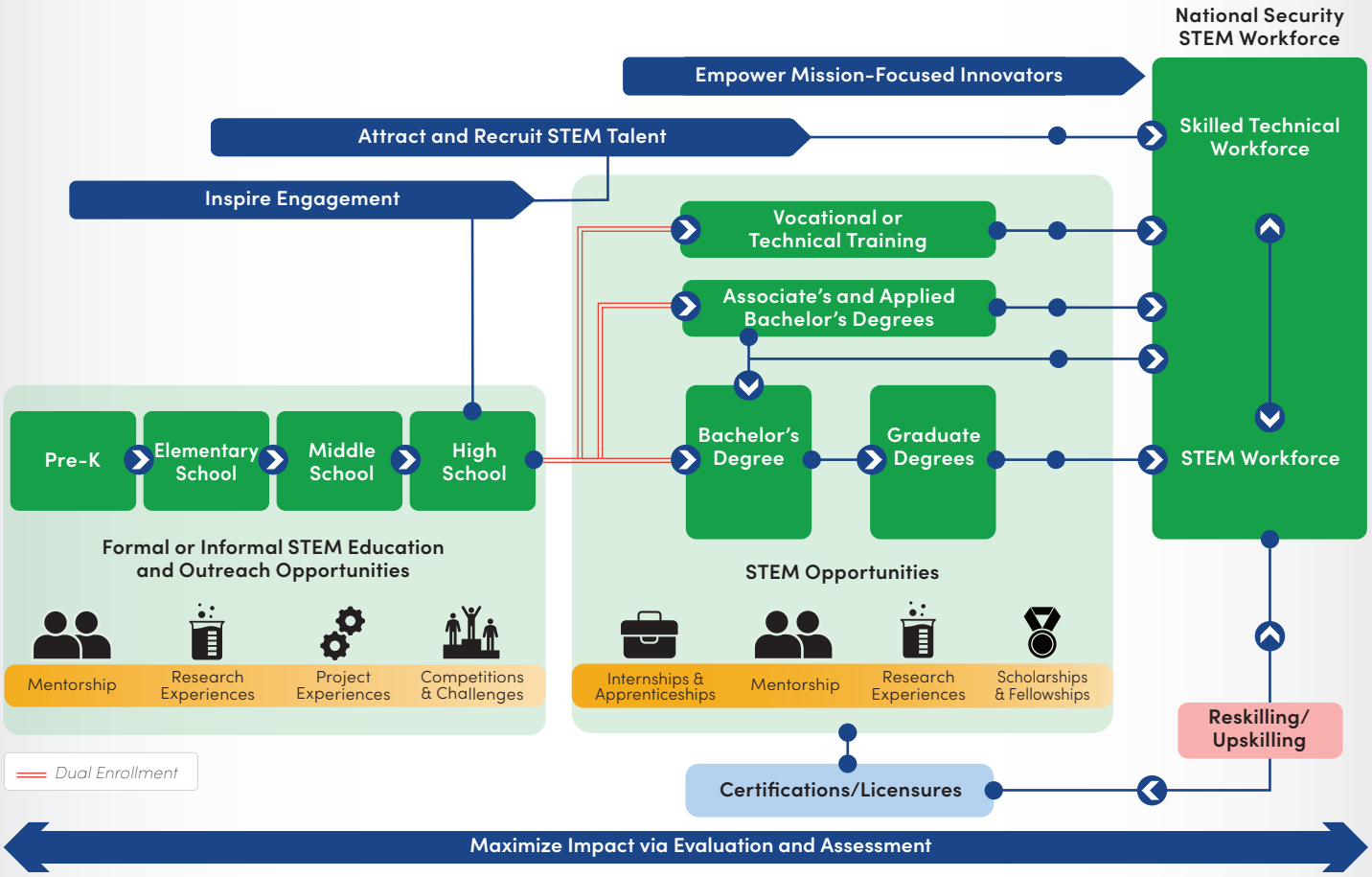
Maximize the impact of STEM opportunities through effective evaluation and assessment practices.

3.1 Enhance the efficacy of DoW STEM opportunities through periodic analysis of program outcomes and continuity.

3.2 Ensure transparency and accountability through data-driven approaches to monitor and report program and participant outcomes.

3.3 Promote the use of common metrics and alignment to program goals to measure the impact of STEM education, outreach, and workforce development opportunities.

Building the National Security STEM Workforce



Adapted from: Verma, D., David, R., Wilcox, J., & Uday, P. (2022). *Policy options to promote DoD-defense industry collaboration in STEM education and workforce development programs, activities, and outreach* (Report No. SERC-2022-TR-005; Sponsored by DoW Office of the Under Secretary of War for Research & Engineering: Contract No. HQ0034-19-D-0003. Systems Engineering Research Center. https://sercuarc.org/documents/technical-reports/262/

Key Terms

DoW Components: The Office of the Secretary of War, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of War, the Defense Agencies, the DoW Field Activities, and all other organizational entities within DoW.

Defense Research and Engineering (R&E) Enterprise: DoW laboratories, warfare, technology and engineering centers across the United States and around the world, including any facility where DoW professionals working in STEM fields serve. The defense R&E enterprise includes federally funded research and development centers (FFRDCs), university affiliated research centers (UARCs), depots, and shipyards.

Defense Industrial Base (DIB): The network of organizations, facilities, and resources that provides defense-related materials, products, and services to the United States government, namely the Department of War (DoW)[1].

1. The U.S. Defense Industrial Base: Background and Issues for Congress. (2026, May 4). https://www.congress.gov/crs-product/R47751

Evaluation and assessment: A systematic study using research methods to collect and analyze data to assess program operations and outcomes. Program evaluation results may be used to assess a program's effectiveness, identify how to improve performance, or guide resource allocation.

Military-connected, which may include:

- **Military-connected students:** Dependents of members of the Active Duty Armed Forces (i.e., military children) and dependents of members of the National Guard and Reserves.
- **Military-connected schools:** A pre-kindergarten through twelfth grade (i.e., preK– 12) school system that has 10% or more military-connected students.

Partnerships: Strategic collaboration between awardees, collaborators, and cross-sector stakeholders (i.e., local, state, and federal government, academia, industry, nonprofits) towards advancing national security and defense innovation through STEM education, outreach, and workforce opportunities.

Skilled Technical Workforce (listed herein as "skilled technical talent"): Individuals who use science and engineering skills in their jobs but do not hold a bachelor's degree or higher, which can include tradesmen and artisans[2].

STEM Education[3]: Formal (in-classroom or in-school) or informal (out of school time) education that can be broadly defined in two categories.

- **Learner-focused:** Development of a learner's technical and nontechnical knowledge, skills, or interests including secondary education (i.e., preK-12 education), research opportunities, certifications, licenses, post-secondary degrees, and/or careers in STEM fields.
- **Educator-focused:** Improves mentor/educator quality; supports expanding the capacity of institutions to promote or foster STEM fields; and supports research on effective STEM teaching and learning practices.

STEM Education Ecosystems: STEM education ecosystems consist of multi-sector partners, including local, state, and federal government, industry, academia, and nonprofit entities, united by a collective vision of supporting participation in STEM through the creation of scalable, comprehensive STEM learning opportunities spanning all education stages and career pathways. A STEM education ecosystem continuously evaluates its activities and adapts as needed, plans for the long term, and communicates its work to build broad support and advance best practices[4].

STEM Opportunities: Formal or informal education, outreach, scholarships/fellowships, or workforce development efforts that are primarily focused on physical and natural sciences, technology, engineering, or mathematics disciplines, topics, or issues[5].

STEM Outreach: Opportunities that build awareness, develop relationships, and promote education products and services that support formal and/or informal STEM education[6].

Work Experience Programs: Opportunities for learners to gain practical experience, instruction, and mentorship while performing the responsibilities associated with STEM and skilled technical job roles. Examples include internships, apprenticeships, fellowships, externships, cooperative education (Co-Op) programs, scholarships, etc.[7].

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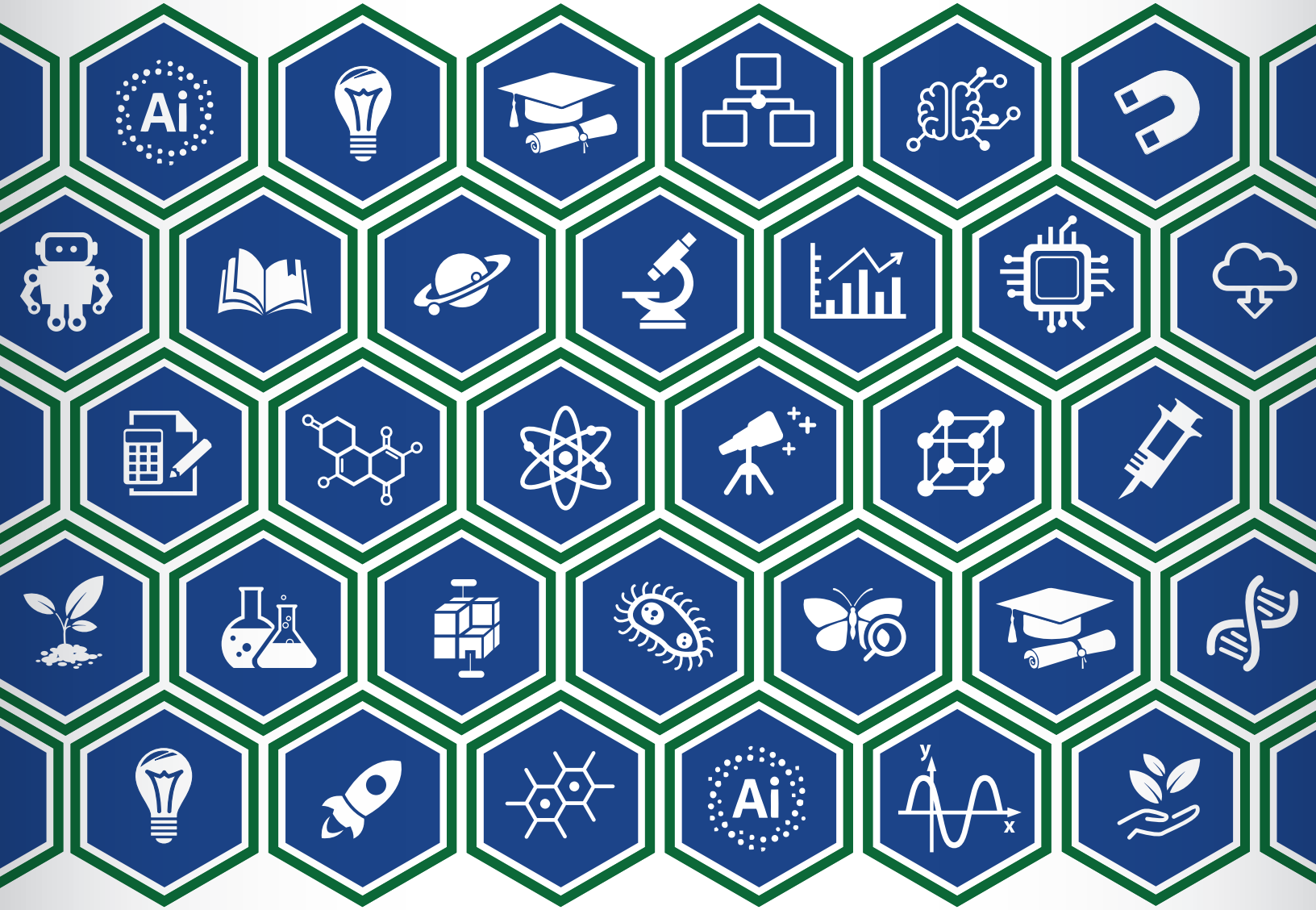
2. National Science Board, National Science Foundation. 2024. The STEM Labor Force: Scientists, Engineers, and Technical Workers. *Science and Engineering Indicators 2024*. NSB-2024-5. Alexandria, VA. Available at https://ncses.nsf.gov/pubs/nsb20245/
3. Adapted from https://ncses.nsf.gov/interest-areas/stem
4. Adapted from 2020 Progress Report on the Implementation of the Federal STEM Education Strategic Plan (archives.gov)
5. https://www.DoWstem.us/about/impact/
6. https://www.DoWstem.us/about/impact/
7. Adapted from National Center for Education Statistics. 2018. *Role of Formal Education in Work Experience Programs.* Washington, DC: U.S. Department of Education NCES. https://nces.ed.gov/pubs2018/2018058/index.asp

Science, Technology, Engineering, and Mathematics or STEM is where curiosity sparks innovation.



DoW STEM Portfolio

Located in the Science and Technology Foundations Office in the Office of the Under Secretary of War for Research and Engineering

4800 Mark Center Drive (Suite:16E08)
Alexandria, VA 22350-3600

info@dowstem.us
https://dowstem.us/

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