







Strategy Overview

Strategy Area	Goals	Key Metrics	Approaches
<p>Accountability and Partnership Groundwork for Collaborative Action</p> 	<p>1. Develop strong systems and processes for measuring equity in STEMM to hold ourselves accountable for progress.</p> <p>2. Establish key infrastructure for enabling coordination and collaboration across institutions and sectors, with a focus on building, strengthening and empowering partnerships.</p>	<ul style="list-style-type: none"> • Annual reporting on the latest state for each of the progress metrics included in the national strategy is released each year, starting in 2025. • 100% of SOA partners have made public commitments aligned with at least one pillar of the national strategy by 2025. • SOA partners have launched a working group for each pillar with detailed metrics for public accountability for the working group's outcomes. • 50% of SOA partners have engaged in new collaborations to advance the goals of the national strategy by 2035. • SOA has grown to a total of 600 partners by 2042 to advance its goals. 	<ul style="list-style-type: none"> • Establish data-driven accountability structures that allow partners to report and easily understand progress and hold the community responsible for action. • Improve and coordinate data collection across the STEMM ecosystem to broaden, deepen, and strengthen key metrics. • Facilitate knowledge sharing within and among communities of practice across all STEMM sectors. • Create and amplify opportunities for organizations to work together on concrete equity initiatives that are shared across institutions, regions and sectors.
<p>Engagement Nurturing Curiosity in Every Child</p> 	<p>1. Ensure all schools provide rigorous, high-quality mathematics and science coursework with access to necessary learning supports.</p> <p>2. Provide children and their families with equitable access to high-quality STEMM learning experiences, including in informal and technology-enabled settings.</p>	<ul style="list-style-type: none"> • All students have access to, and 75% of middle school students enroll in algebra courses by 2030. • All high school students have the opportunity to take calculus, physics and other advanced math and science courses by 2040. • 3.5 million more youth, with at least 50% from marginalized communities, participate in out of school STEMM learning experiences by 2025. • 6.5 million more youth, with 70% from marginalized communities, participate in after-school STEMM learning experiences by 2030. • All Title I schools have access to after-school STEMM experiences by 2025. 	<ul style="list-style-type: none"> • Increase the average amount of time that students spend learning STEMM subjects and the number of accessible, high-quality classes. • Ensure that all secondary school students have access to and are supported in registering for dual and concurrent enrollment classes, taking STEMM AP courses, or engaging in other rigorous academic program opportunities regardless of school district. • Provide access to modern technologies and resources within all pre-K-12 schools and other learning spaces to address the digital divide. • Increase access to and participation in high-quality informal and community-led STEMM learning opportunities — which have been proven to improve students' comfort with and desire to pursue STEMM education and careers — including equitable partnerships with schools and access to online learning platforms. • Provide ample opportunities for experiential learning so that theoretical and abstract concepts within curricula are better understood, retained and applied. • Introduce children and their parents to STEMM careers and augment the diversity of people in those careers across the range of preparation, from certificate to doctoral education.


Strategy Overview (continued)

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<p>Inspiration Developing Skilled and Diverse Educators</p> 	<p>1. End the persistent shortage of STEMM pre-K-12 educators.</p> <p>2. Diversify the STEMM educator workforce so that it reflects local and regional demographics.</p>	<ul style="list-style-type: none"> • Reduce the STEMM teacher shortage in the hardest to staff schools by one-third by 2035. • End the teacher shortage by 2045 with an increase in average teacher retention across all demographics. • Double historically excluded and marginalized communities' participation in teacher preparation programs by 2035. • Double the retention of historically excluded and marginalized STEMM educators by 2040. • Provide at least three-quarters of out-of-school STEMM educators with a regular form of professional development, coaching and/or mentorship by 2030. 	<ul style="list-style-type: none"> • Expand on-ramps to the teaching profession, including mid- and late-career professionals with STEMM experience in other sectors. • Create regional systems to assess and track teacher workforce gaps, retention and representation. • Strengthen incentives and support structures to attract and retain educators from a wide range of diverse and intersecting backgrounds. • Align educational norms with evidence that defines excellent education as inclusive, culturally relevant, assessment-informed and delivered utilizing the most current evidence-based teaching and learning strategies.
<p>Discovery Creating Opportunity for All in Higher Education</p> 	<p>1. Ensure higher education institutions and their STEMM programs are accessible, inclusive and designed to support the talent development of all people.</p> <p>2. Create equitable and inclusive systems and policies for educating, developing, hiring, retaining and advancing STEMM faculty from historically excluded and marginalized populations across fields of study.</p>	<ul style="list-style-type: none"> • Cut the enrollment gap for historically excluded and marginalized groups in half by 2030. • Cut the degree-granting gap for historically excluded and marginalized groups in half by 2035. • 100% of R1 and R2 universities adopt evidence-based equity and inclusion strategies and practices for STEMM graduate programs and faculty hiring and advancement. • Historically excluded and marginalized communities comprise one-third of STEMM faculty by 2045. 	<ul style="list-style-type: none"> • Ensure all STEMM programs of study are evaluated on the basis of learning effectiveness across all students and departments and that colleges establish and make progress toward eradicating achievement and opportunity gaps for their students. • Update and improve student admissions, transfer and financial aid processes to use legally sustainable and effective strategies to improve access and enrollment for students from historically excluded and marginalized or nontraditional backgrounds. • Enhance opportunities for students to pursue a broad range of STEMM pathways, including by taking advantage of CCs and RPUs and easing transfers for students with some postsecondary training. • Increase opportunities and support development and awareness of diverse STEMM pathways for nontraditional students and adult learners. • Establish proactive and inclusive educational cultures and environments that include transparency, accountability, ongoing measurement and assessment, and support for all students to ensure the success of students from historically excluded and marginalized populations. • Increase equity in efforts to hire, retain and support diverse STEMM faculty across scientific disciplines.

Strategy Overview *(continued)*

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<p>Innovation Leveraging Diverse Minds in R&D</p> 	<p>1. Ensure researchers from historically excluded and marginalized communities receive equitable opportunities for funding, career navigation and support.</p> <p>2. Encourage entities in the STEM R&D ecosystem to utilize robust plans for envisioning and implementing equity.</p>	<ul style="list-style-type: none"> Invest \$15 billion in research infrastructure and capacity building at HBCUs, TCUs and other MSIs by 2040. Double the amount of research funding received by HBCUs, TCUs and other MSIs by 2045. Close the funding gap for PIs from historically excluded and marginalized backgrounds by 2035. Three-quarters of the top 100 U.S. patent-producing organizations commit to robust and actionable equity and inclusion plans by 2035. The top 100 U.S. patent-producing organizations actively share their progress on equity and inclusion metrics by 2040. 	<ul style="list-style-type: none"> Remove barriers to both federal and private grant funding for researchers from diverse backgrounds, targeting opportunities to build research capacity in PIs from historically excluded and marginalized groups. Build STEM research capacity and infrastructure within HBCUs and other MSIs. Expand the diversity of researchers and administrators working in scientific publishing and broader knowledge production. Expand the understanding and adoption of community-led research, education and service initiatives and community-based organizations that are crucial to engaging underserved populations in advancing STEM. Develop a process for and continue to improve equity reviews of government, philanthropic and private funding for STEM research at all decision points. Implement processes in the public and private sectors that prioritize identifying and addressing disparities and impacts in STEM R&D. Expand the use of equitable and legally sustainable strategies for talent identification, recruitment, hiring, retention and promotion.
<p>Opportunity Ensuring All Workers Thrive</p> 	<p>1. Remove barriers to identifying, hiring, retaining, developing and promoting persons from historically excluded and marginalized communities in the workplace.</p> <p>2. Ensure workplaces feel supportive of historically excluded and marginalized communities.</p>	<ul style="list-style-type: none"> 20 million new STEM workers from historically excluded and marginalized groups are added to the STEM workforce by 2050. 10 million new STEM professionals from historically excluded and marginalized groups by 2035. All STEM employers commit to transparent job descriptions and career mobility plans by 2025. All STEM employers adopt robust equity and inclusion plans by 2025. 	<ul style="list-style-type: none"> Create well-coordinated on-ramps that value a variety of educational backgrounds for an upwardly mobile STEM career. Support formal and informal workforce development strategies that can help workers more easily enter and advance in STEM careers. Remove barriers that keep historically excluded and marginalized communities from accessing capital, serving on boards and receiving career coaching. Uplift and resource affinity programs for historically excluded and marginalized communities in the workplace. Root out bias, discrimination and harassment in all STEM workplaces and support efforts to improve belonging. Ensure all STEM companies have robust benefits packages, including parental leave and other family-friendly policies to support workers. Deploy rigorous and regular employer-sponsored upskilling programs with clear paths for upward mobility in the workplace.

Strategy Overview *(continued)*

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<p>Capstone Strategic Communications</p> 	<p>1. Ensure the demographics of STEMM professionals depicted in entertainment and media align with the demographics of the country.</p> <p>2. Effectively illustrate the importance of diverse perspectives in STEMM and how they are critical to achieving excellence in STEMM.</p>	<ul style="list-style-type: none"> Entertainment and media depictions of the STEMM field are inclusive and reflective of the population by 2030. All Americans understand the necessity of an inclusive and diverse STEMM enterprise as critical to the U.S.'s scientific, social and economic advancement, health and national security by 2040. SOA partners have measurably improved media and entertainment content that reflects SOA STEMM inclusivity guidelines by 2035. 	<ul style="list-style-type: none"> Equip STEMM communicators across sectors and venues with the tools and expertise needed to deliver inclusive messages about the critical role of diverse people in STEMM. Amplify the voices of individuals from historically excluded and marginalized groups and highlight how their contributions to STEMM positively impact the U.S.'s national security, economic well-being, global competitiveness and innovative capabilities. Support the translation of STEMM learning materials and other resources to be more inclusive to multilingual individuals and their families.