Diversity, Equity, and Inclusion in Science and Technology: Action Grid

The below grid represents a collection of key actions and corresponding sample strategies on how to promote diversity and inclusion in science and technology workforces. The actions in this grid are designed to help impact representation and inclusion of all of the people of the United States, including groups that are underrepresented in some fields or at certain organizational levels, which may include women, racial and ethnic minorities, people with disabilities, and more. When considering actions in this grid, be mindful of intersectionality: ensure there is an awareness and consideration of issues that apply to people who identify as being from more than one underrepresented background—people should not have to choose between facets of their identities. The actions listed here span four areas: leadership; retention and advancement; hiring pathways; and the talent ecosystem. What works in one workplace may not work in all workplaces, and this document is not intended to be prescriptive, but rather to suggest strategies that have led to success for some.

1. Leadership: Increase leadership engagement of senior and mid-level management

There are many philosophies on who should "own" diversity within an organization—within human resources, the c-suite, or a special diversity office being some of the most common choices. Regardless of who owns the tactics and execution, visible and deliberate leadership engagement is necessary in order to provide any efforts the best chance of success. Further, anyone who manages others must be responsible for inclusion. Without senior-most-level engagement, diversity is often considered a secondary, "nice to have" rather than a priority for an organization. Leadership engagement sends a strong message to potential candidates and current team members. Further, there are ways that only a senior leader can amplify an initiative and motivate a team or workforce that are valuable when change management is required, as it often is with this work.

	Key Actions	Best Practices	Data to Track
1.1 CREATE CONCRETE ENGAGEMENT POINTS FOR SENIOR LEADERS			
1.1	Schedule regular internal and external events, meetings, and other engagements with senior leadership on diversity; include diversity and inclusion in regular meeting agendas	• Ensure that senior leadership are engaged with employee resource groups[1] (ERGs) as executive sponsors and that senior leaders attend ERG meetings and events • Hold executive listening sessions where senior executives and board members listen to employees from underrepresented groups talk about their experiences at work • Scout best practices to develop a strategy approved by senior leadership to increase their engagement through events such as: regular meetings to track bias mitigation, diversity, and inclusion efforts; speeches or town halls focused on diversity, and roundtables with ERGs	• Percent of diversity-related events with senior leadership present • Number of diversity-related events attended by each senior leader • Amount of lift an event gets by having a senior leader affiliated with it (e.g. social media impressions)
1.2 UPGRADE MENTORSHIP TO SPONSORSHIP			
1.2a	Promote sponsorship[2] to identify and advocate for high-performing, talented employees	• Create guidelines around sponsorship to ensure that cross-demographic sponsorships are common • Develop a strategy to encourage a culture of sponsorship within departments and agencies, which could include actions such as an outreach campaign, an online toolkit of resources, and a survey to understand the use and meaning of sponsorship	• Track number of sponsorship relationships, including cross-demographic relationships • Track whether sponsored individuals advance more quickly or are retained longer than non-sponsored individuals
1.2b	Ensure that employees from underrepresented backgrounds and their achievements are	• Lack of visible celebration of mission-critical work of those from underrepresented backgrounds can lead to a sense that these individuals are under-contributing due to confirmation bias, so intentionality is required	• Rates of recognition across demographics (e.g. awards,

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[1] Employee-led groups based around a given identify or affinity designed to serve as a resource for both employees in it and the company in its work to support those employees.
[2] Sponsorship is more active traditional mentoring, with a strong focus on advocacy. Sponsors actively advocate for the person they are sponsoring with the sponsor's peers and superiors; connecting the person sponsored to important people and opportunities; and provide cover for them to take risks and pursue learning opportunities.

	Key Actions	Best Practices	Data to Track
	visible and celebrated at rates at least as high as those from well-represented backgrounds	• Surface contributions such as work completed and insights made in team meetings; share accomplishments with "skip managers" (a person's manager's manager) • Ensure authorship on joint works • Ensure presenting roles in meetings and on stages	speaking roles in meetings and at conferences)
1.3 CREATE ACCOUNTABILITY MECHANISMS			
1.3	Establish, measure, incentivize, and prioritize performance objectives on diversity and inclusion for all managers and leadership	• To the extent legally permissible, consider success on diversity and inclusion metrics when evaluating compensation, advancement, and recognition • Develop a strategy for implementing performance objectives regarding diversity and inclusion, providing guidance on what qualifies as satisfactory and unsatisfactory performance, and holding managers accountable in evaluations	• Track diversity of managers' teams and any differential outcomes by demographic
1.4 EMBED DIVERSITY INTO THE STRATEGY			
1.4a	Enhance strategic plans to include bias mitigation, diversity and inclusion goals and objectives	• Relate bias mitigation, diversity, and inclusion goals to overall agency and division mission; articulate how achieving these goals furthers the ability to get the work done • Include conversation of bias mitigation, diversity, and inclusion work when discussing organizational goals and share research that supports its importance	• Track number of agency/division priorities with an equity lens in outcomes
1.4b	Ensure leadership and management are espousing a "multicultural" lens not a "color blind" lens	• Multicultural approaches can reduce bias while color blind approaches can exacerbate it; some people from underrepresented backgrounds may interpret colorblindness as an alienating denial of their experiences as people of color • Support and celebrate employee resource groups • Ensure a variety of culturally relevant holidays are recognized and celebrated • Encourage people to bring their "full selves" to work	• Track visible executive support of multicultural groups and holidays • Review policies to account for multiple identities
1.5c	Ensure that the diversity strategy and the individuals championing it are visible, including individuals from underrepresented backgrounds and others	• Discuss strategy at team meetings and town halls, report on progress and challenges • Provide coaching for leadership on how to talk about tough issues related to diversity so that they become more comfortable with leading dialogue	• Track the degree to which employees feel that the diversity and inclusion strategy is clear and effective

2. Retention and Advancement: Improve the retention and upward mobility of diverse talent

Often diversity is assumed to be a recruitment issue, yet when retention and advancement data are examined, it becomes clear that people from different backgrounds are staying on and moving up at different rates within an organization. This may indicate a culture that could evolve to be more inclusive, a set of policies and practices that inadvertently favor one subgroup over another, or other issues. The workforce itself may be a valuable source of insights into patterns. While recruitment can initially appear to be more high impact as a focus area when attempting to impact diversity, those efforts will be wasted if individuals cannot be effectively retained and advanced.

	Key Actions	Sample Strategies	Data to Track
2.1 IDENTIFY CURRENT OBSTACLES			
2.1a	Conduct and make available a barrier analysis that identifies obstacles for retention and promotion for	• Review the research on what impacts retention rates for underrepresented groups • Connect with other large organizations conducting their own internal research to learn from their findings	• Reasons for leaving spliced by demographic • Promotion rates spliced by demographic

Key Actions		Sample Strategies	Data to Track
	diverse talent, as well as efforts underway to remedy the issues	• Dig into what aspects of your workplace culture are impacting retention rates for underrepresented groups • Gather and analyze data from exit interviews, surveys, studies, promotion results, focus groups, EEOC reports, and other means to track who is leaving or is not advancing • Make data available to the workforce, along with efforts to revise policies and standards that may be holding certain groups back for non-merit-based reasons	• Quality and quantity of choice assignments by demographic
2.1b	Conduct research on culture, policies and practices at the organization	• Determine whether different demographics experience culture and policies differently • Survey and interview employees and also host groups of individuals from target demographics for events, then assess their experience if the workplace and culture	• Differences in assessment across demographic lines • Insights that can be translated into actions

2.2 ANALYZE AND SHARE DATA

2.2a	Make updated workforce data available to senior leadership and broader workforce to allow for a shared understanding of opportunities and challenges and open dialogue	• Ensure data are presented broken down by key demographic groups as well as by seniority and job function so that patterns may be surfaced, the more granular the better (without compromising employee privacy) • Source best practices and develop a strategy for how demographic data, data on workforce trends (e.g., relevant civilian labor force, U.S. population, education statistics), and employee-survey scores will be provided on a regular basis to senior leadership and broader workforce (such data could be provided via memos, dashboard, department-wide notices, and other means)	• Frequency and quality of data sets being shared
2.2b	Examine data to determine if seemingly neutral policies have disproportionate effects along demographic lines	• Pay close attention to flexible work policies (or lack thereof), pay for performance, tenure-based advancement or layoff criteria, and more • Conduct internal surveys regarding policies and splice data by demographics • Review policies and leading research to spot potential issues	• Track the number and types of policies upgraded, downgraded, or changed and the number of employees impacted

2.3 TRAIN THE CURRENT WORKFORCE

2.3a	Institute inclusion training including unconscious bias training and training on managing a diverse workforce	• Ensure unconscious bias training is based on latest best practices • Use pre- and post-analysis to track impact of training on hiring and management of underrepresented talent • Ensure that training is not a one-off but part of a coherent series of engagements around bias mitigation • Use existing research to show that everyone has bias and avoid assignations of blame • Source best practices and develop a strategy to make training on these issues mandatory for as many employees as possible, with an emphasis on senior and mid-level managers and hiring/recruiting officials	• Track the percentage of the workforce that has engaged in these trainings
2.3b	Train managers on skills that correlate with better managing a diverse workforce such as flexible work policies and conflict resolution training	• Ensure managers are trained on flexible work policies and that they are presented in gender-neutral terms • Ensure managers understand different conflict styles and are versed in how to manage them • Source best-practice content and tailor for specific needs	• Track use of flexible work policy and feedback on effectiveness • Splice data by division to determine whether there are patterns of use

Key Actions		Sample Strategies	Data to Track
2.4 LEVERAGE PROFESSIONAL DEVELOPMENT			
2.4	Expand, diversify, and track the effectiveness of internal and external mid-level professional-development programs	• Ensure that professional development can be accessed in a variety of ways (self-nominated, manager-nominated, mandatory, etc.) • Track participation of professional development to ensure utilization by all groups; create tailored professional development for individuals from underrepresented backgrounds • Provide professional development on how to manage a diverse workforce to all managers • Create and support ERGs to help disseminate professional development • Identify all programs that your organization runs or sponsor for mid-level employees and ensure they are widely advertised • For programs where participants are chosen by managers, develop a strategy for ensuring the programs are utilized by diverse talent and for tracking participants' promotion and attrition rates	• Track utilization of professional development opportunities by demographic • Solicit feedback on usefulness of programs by demographic
2.5 INSTITUTIONALIZE FORMAL FEEDBACK			
2.5	Ensure all employees from all demographic groups are receiving structured feedback regularly from their managers	• Train managers on providing feedback to individuals who may suffer from imposter syndrome[3] and stereotype threat[4] • Train managers on soliciting feedback • In addition to informal feedback, require performance be documented regularly throughout the year, reflecting feedback given in formal one on one settings	• Analyze type and frequency of feedback given across demographics (including using data science to analyze anonymously by demographic, e.g., sentiment analysis)
2.6 SUPPORT EMPLOYEE RESOURCE GROUPS			
2.6a	Develop and support "safe spaces" where individuals from underrepresented backgrounds can find support, build friendships, and be fully themselves	• Employees from underrepresented backgrounds may consciously or unconsciously feel they have to adopt a different persona while at work; create spaces where they can drop their "mask" to relieve stress • Support and promote ERGs as places where employees can come together to support one another	• Measure participation in ERGs • Measure the degree to which employees feel they can be themselves at work
2.6b	Leverage ERGs as sources of important insight for the organization	• Empower ERGs to share their needs and determine how to engage allies and managers • Ensure ERGs have a business purpose that ties them to the bottom line so that they are seen as valuable, providing access to talent or input on products or services • Give ERGs a budget, executive sponsorship, and ensure that executive leadership (preferably from a different demographic) attends meetings and events and is versed in the activities of the ERG and that managers have regular interactions with ERGs	• Track the number and types of programs, products, policies that emerge from ERGs

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[3] When someone has trouble internalizing their achievements and feels like a fraud despite objective evidence to the contrary, often felt by people in the minority in a situation. Originally described in *The imposter phenomenon in high achieving women: Dynamics and therapeutic intervention* by Pauline Clance and Suzanne Imes in 1978, the phenomenon has since been extensively studied in other populations.

[4] A well-documented psychological phenomenon where a person is or feels they are in danger of conforming to a negative stereotype about a group of which they are a member, which then makes them actually more likely to conform to that stereotype. Early studies such as *Stereotype threat and the intellectual test performance of African Americans* by Claude Steele and Joshua Aronson in 1995 were followed by studies that showed stereotype threat affecting other groups as well.

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3. Hiring Pathways: Strengthening pathways for candidates into your workforce

Today's workforce is becoming increasingly diverse; in almost every case the available pool of talent is more diverse than the current employee base. A focus on hiring, particularly at the entry level, provides a unique opportunity to not just impact today's diversity numbers, but also to sow seeds for a future workforce that represents the full diversity of America. The large quantity of available talent from underrepresented backgrounds also means that a homogeneous entry-level workforce can be an indicator for workplace culture and bias issues, and so information about your entry-level workforce is particularly useful data to track. Below are some actions around recruitment, vetting, and hiring that can help ensure the diversity of the workforce from entry-level up through executive-level positions.

	Key Actions	Sample Strategies	Data to Track
3.1 CONDUCT DELIBERATE OUTREACH			
3.1a	Deliberate outreach to diverse *networks* is required to ensure that applicants to roles are diverse	• Hold joint outreach events that allow candidates from underrepresented backgrounds to explore the full range of careers in your workforce • Participate in events, conferences, and gatherings with large concentrations of individuals from underrepresented backgrounds and/or that specifically gather diverse groups • Develop collateral such that each department can represent the others at recruitment events in order to increase efficiency • Use demographic data to help determine which geographies, conferences, and schools to prioritize for outreach	• Outreach events held and their demographics • Demographics of individuals reached through outreach • Demographics of applicants
3.1b	Deliberate outreach to and by diverse *individuals* is required to ensure that applicants to roles are diverse	• Engage your employees in sourcing and suggesting diverse applicants for open roles • Actively cultivate relationships with highly networked individuals from underrepresented backgrounds • Equip all employees with the information they need to recruit for open roles • Host intimate gatherings with key influencers to convert them into advocates and recruiters within their own networks	• Demographics and diversity of referrals • Influencers who are recruiting on your behalf
3.1c	Deliberate outreach to individuals and organizations *across industries* allows for access to fresh pools of talent with a greater diversity of backgrounds	• When drafting job descriptions, enumerate skills that are required that could be acquired irrespective of industry and attempt to minimize the number of industry-specific skills or experiences required • Compare draft job descriptions to those for similar roles in other industries to see where "insider" language is being used that may confuse or deter candidates from other industries	• When and where cross-sector outreach is occurring • Number of applicants from other sectors that apply and their success in the application process
3.2 EXPAND POINTS OF ENTRY			
3.2a	Increase slots for paid internships and other entry-level programs to create a diverse pipeline into your workforce	• Entry-level programs should have deliberate diversity outreach strategies • Ensure that there is a strategy to convert interns to full-time hires • Focus recruitment for such programs on feeder programs with high numbers of individuals from underrepresented backgrounds • Direct non-committed funding towards expanding entry-level programs	• Demographics of interns and conversion rates to full time by demographic
3.2b	Contractors and fellowships may provide new sources of talent	• Rotational programs and contractors allow for a "try before you buy" approach for both the candidate and the organization, and provide natural opportunities for feedback that may be elusive from full-time hires (be careful, however, not to stigmatize non-full-time roles or to create two classes of employees that divide along demographic lines) • Accept short-term placements from other departments to assess interest and fit	• Demographics of contractors, fellows, etc. • Conversion rates and retention rates • Differences in benefits between full-time and rotational employees

Key Actions		Sample Strategies	Data to Track
		• Create short-term contracting opportunities for potential employees when more data are needed to determine fit • Use short-term roles to take risks on candidates you might not hire full-time	and contractors and demographic implications
3.3 PRIORITIZE DATA			
3.3	Collect, analyze, and disseminate applicant flow data[5] for all positions in order to inform outreach decisions and to spot points of potential bias in the hiring process	• Look for demographic trends throughout the recruiting funnel and use this data to iterate on solution sets and to create more targeted interventions • Scout for best practices to emulate and develop a strategy for how you will collect and store data and an action plan to integrate this into your hiring process, or detail how you are already tracking applicant flow data and how it is informing hiring and outreach decisions	• Track the full recruiting funnel: who knows about your roles, who applies, who passes each screen, who gets an offer, who accepts/declines
3.4 PAY ATTENTION TO LANGUAGE			
3.4	Use language for job announcements, marketing materials, and applications for professional development programs that is inclusive and encourages all groups to apply	• Look at best practice language and tools from organizations internally and externally that have crafted research-based approaches to evaluating job description language • Ensure job descriptions are free from implicit bias, e.g. by using gender neutral pronouns and descriptors • Ensure only skills actually required to do the job are listed as such • Review all open job descriptions against guidance from human resources or the equivalent and consider guidance from relevant outside organizations and make edits and updates as needed • Issue an internal set of job description guidelines based on best practices • Solicit feedback from employee resource groups (ERGs) on job descriptions	• Whether current job descriptions follow accepted and emerging best practices • Demographics of candidates based on differently-worded marketing materials and job descriptions
3.5 UPDATE YOUR CANDIDATE SCREENING SYSTEMS			
3.5a	Create repeatable systems for hiring that minimize individual bias and maximize organizational objectives	• Be clear what criteria are being used when assessing candidates • Identify desired traits, particularly when rounding out skill sets on a team • Standardize criteria across interviewers and direct them to use specific measures • Define ambiguous terms like "culture fit" with specific adjectives and indicators • Use a rubric and have each interviewer submit their rubric	• Use of the rubric • Success of candidates pushed through the process
3.5b	Err on the side of passing candidates through rather than cutting them in early stages of the application process	• Since organizations rarely see false negatives (those who should have been hired but were not), but always see false positives (those who should not have been hired but were), there is natural risk aversion that develops that must be counteracted with policy • If moving candidates forward on a point system, the point threshold could be lowered; if using a stoplight system, "yellow" candidates could be pushed through	• Number of candidates from different demographic backgrounds that make it through resume review and phone screen • Number of candidates who would have failed in past scheme who succeed in current scheme • Rates of "bad hires", e.g., number of people let go in trial period or their in first year

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[5] Applicant Flow Data is the collection of data on how applicants flow through your application process by demographic.

4. Ecosystem: Build external constituencies of support

Best practices are continuously emerging from within and outside of any given organization; creating ways to learn from and share them can accelerate change. Equity work can also be challenging and draining, and creating allies within an organization and across aligned organizations can provide opportunities for visibility and camaraderie to individuals leading the charge internally. This type of community building can be critical in sustaining individuals, efforts, and change.

	Key Actions	Best Practices	Data to Track
4.1 FIND ALLIES IN THE WORK			
4.1a	Hold an annual or biannual symposium on diversity in the workforce with community partners, think tanks, universities, private sector entities, nonprofits, etc.	• Include leaders in other sectors who are struggling with and making progress on these issues; include leaders in other sectors from which you hope to source talent (e.g., tech) • Establish a Community of Practice with regular meetings (e.g., quarterly) and opportunities for virtual connections to share best practices, challenges, and insights • Invite discussion of diversity issues and sharing of best practices to advance the field	• Track attendees of symposium, job applicants resulting from symposium, diversity of attendees
4.1b	Consider collaboration with professional affinity organizations, think tanks, and universities to promote diversity and identify diverse talent	• Ensure that as many underrepresented groups as possible are included as collaborators • Opportunities to establish such collaborations could occur through joint recruitment efforts, a symposium, establishment of mid-level talent exchanges, and agreeing to host interns from various organizations • Ensure communication across departments and divisions to streamline opportunities for external collaborators	• Track number of collaborations, number and type of constituencies reached through each, number of applicants that come from partner institutions
4.2 USE MOMENTS OF INFLUENCE TO FURTHER THE WORK			
4.2a	Include criteria on equity and inclusion when evaluating proposals from external grantees, contractors, or partners, consistent with applicable legal provisions	• Consider whether external organizations with which you are aligning have robust bias mitigation, diversity, and inclusion strategies • Request disclosure of bias mitigation, diversity, and inclusion strategies in proposal and partnership processes • Encourage organizations to share best practices externally	• Track workforce data disclosed by grantees, contracts, and collaborators
4.2b	Ensure a diverse group of evaluators when considering proposals from grantees, contractors, and collaborators	• Consider the full breadth of expertise and experience needed when composing selection panels and make special effort to ensure panels are diverse and representative of the community being served • Be clear on what experience is actually necessary for selection panels and be expansive when determining criteria for participation to ensure the broadest possible set of individuals can be included	• Track demographic composition of decision-making bodies and track differences in diversity and quality of decisions made