



ISC2™ Your Future. Secured.

Diversity in cybersecurity is instrumental in advancing the industry and creating a more secure world.

How to Manage Bias in Cybersecurity

ISC2 is proud to be a top resource to help professionals acquire the best skills they need to become information security leaders with the mission to support professionals by providing industry information, vast networking, collaboration opportunities, and development tools. We have the necessary tips and resources to help diverse professionals thrive in the industry and take their careers to the next level.

We know that it's essential for cybersecurity professionals to look like the people they serve and protect. Diversifying the industry improves online defenses and allows a space for different perspectives to contribute to the advancement of technology.

Our efforts have provided a diverse, equitable, and inclusive cybersecurity space for more than 168,000 certified members who serve in critical cyber, information, software, and infrastructure security roles.

As a part of this commitment, we have joined forces with Blacks United in Leading Technology® International, Inc. (BUiLT) to provide multiple guides with proven methods that Black and diverse professionals use to get in, stay, and advance in cybersecurity.

Introduction

It is no secret that the cybersecurity industry, in America, is not as diverse as it should be. ISC2 and BUILT ([Blacks United in Leading Technology](#)) have a partnership to increase the number of underrepresented professionals entering, staying, and advancing in the cybersecurity profession.

One way we demonstrate our partnership is through the publication of toolkits. While the focus of these particular publications is to increase the representation of diverse technologists in cybersecurity, the toolkits are for all audiences to use. These Top Ten Guides provide tips and actionable steps to empower all professionals to excel in their positions and grow their careers.

This particular toolkit, *How to Managing Bias in Cybersecurity*, explains what bias is, what some of the various types of biases are, how to diagnose them, and how to mitigate biases that are negatively influencing employers when hiring, developing, and promoting staff.

This toolkit also addresses how to respond if we witness or are victims of unfair bias.





What Is Bias and Why Does It Exist?

The [dictionary](#) defines bias as “an inclination of temperament or outlook especially: a personal and sometimes unreasoned judgment,” while [Psychology Today](#) explains it as “a tendency, inclination, or prejudice toward or against something or someone...biases are often based on stereotypes, rather than actual knowledge of an individual or circumstance.” While many view “biased” as bad, it is just a predisposition or preference for or against something.

All people hold biases—just one of the perks of having a human brain. Bias can be something as innocuous as “I love green vegetables,” or as harmful as “I don’t like immigrants.” Some biases help keep us safe and comfortable, while some if not checked can lead to prejudice and discrimination. Unconscious and conscious bias refer to two different types of biases that influence decision-making and behavior, particularly in the context of interpersonal relationships and the workplace.

Unconscious bias, also known as implicit bias, involves attitudes or stereotypes that affect our understanding, actions, and decisions in an unconscious manner.

Data scientists estimate that our brains process 11 million bits of information every second, but we're only aware of about 40 of those bits. Therefore 99.967% of what we process is unconscious. Our biases help our brain use less energy by writing scripts and creating shortcuts. Yes, our brain prefers to be lazy and therefore processes and interprets information based on previous experiences so we do not get overwhelmed.

While these biases can be helpful they also can create a prescription where our natural inclination to be around people who are similar to us leads to an unjustified or unfair view of people who are not like us (read: prejudicial thinking) or action against them due to those biases and prejudices (discrimination).

These biases are often unintentional and may operate without individuals being aware of them. An individual subconsciously associating certain qualities or abilities with a particular gender or ethnic group, influencing their decisions without them consciously realizing it illustrates implicit bias.

Conscious bias, also known as explicit bias, refers to biases that individuals are aware of and can intentionally control. These biases are often the result of personal beliefs, attitudes, and stereotypes that people knowingly hold. For example, an individual consciously deciding not to hire someone based on their gender, ethnicity, or other characteristics, despite their qualifications is overt, conscious bias. Conscious bias also exists when investors use race as a factor in whether to fund tech start-up companies owned by Black founders.



Unlike for workers just 20 years ago, most organizations today have processes, procedures, and training for employees, vendors, and customers to help eliminate unfair, conscious bias in the workplace. Employees should expect and find anti-discriminatory and anti-harassment statements at the companies they work. Company procedures generally give employees who feel they have been harmed by conscious, explicit bias a method for recourse.

With the reality that helpful and harmful biases exist, coupled with the certainty that everyone has biases, there are many sides to consider. A person in authority may make harmful employment decisions entirely unconsciously. And, a person who feels they are a victim of harmful bias may be making this determination through the lens of their own bias. And similarly, organizations may have ways of doing business that are ingrained with harmful bias (i.e. to hire graduates only from certain schools, where those schools do not allow people to enter equally).

This guide will focus on all three sides:

- The Employer's Responsibility to Mitigate Bias
- Every Person's Responsibility to Manage their Own Bias
- What to Do if You Feel you are a Victim of Harmful Bias

No matter which perspective, to mitigate biases, people need to intentionally interrupt their autopilot behaviors and choose when to be reflexive and where to be reflective. People have to recognize that unconscious judgments exist, and work to recognize unfair treatment of others in the workplace.



Types of Workplace Bias

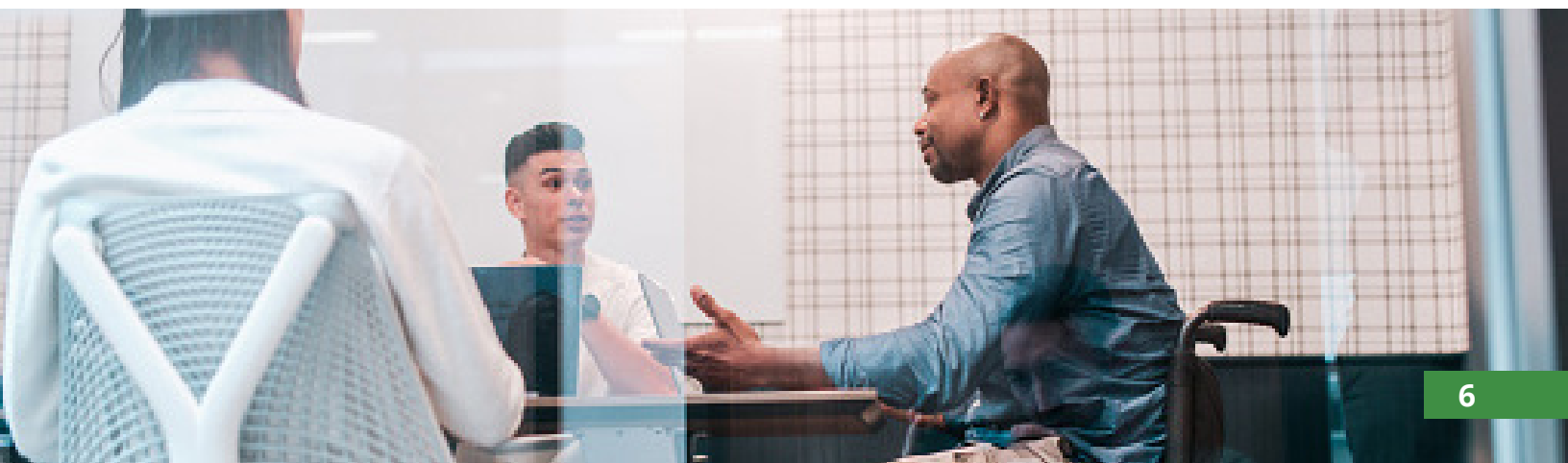
Workplace bias refers to the presence of unfair or prejudiced treatment of individuals within a work environment based on certain characteristics. Characteristics can include, but are not limited to, factors such as gender, race, age, sexual orientation, disability, and cultural background.

Bias in the workplace can manifest in various forms, including unequal opportunities, discriminatory practices in hiring and promotions, and differential treatment in day-to-day interactions. Workplace bias can be explicit and intentional, or it can be subtle and unconscious, stemming from ingrained stereotypes and prejudices. Addressing workplace bias is crucial for creating a fair and inclusive work environment, and organizations often implement policies, training programs, and diversity initiatives to mitigate bias and promote equal opportunities for all employees. It is essential that workplaces look to mitigate bias so individuals can show up as their full and authentic selves, able to achieve the self-actualization where they can work uninhibitedly.

Racial and gender bias refers primarily to the unconscious thoughts we have about the abilities of races and genders that are based on preconceived notions. [It is different from racism and misogyny](#), in that we often don't realize we're doing it.

A great recent example of this was a [Wall Street Journal article](#) titled, "Why More Female Executives Don't Play Golf - and Why That's a Problem." A quick Google search yields several articles about how businesses can encourage more women to golf to not miss out on these networking opportunities, but one X commenter, @SonyaDreizler, summarized the problem succinctly: "Lemme fix that headline: Why Business Networking Continues to Rely on an Activity That Has Been Historically Inaccessible to Women, People of Color, and Poor People - And Why That's a Problem." The problem is not golf. The problem is that some people may not feel welcome in "fun" institutions that have been both implicitly and explicitly biased against them.

For years, the press has reported the inequities for Black and brown tech workers, including a Tech Target article titled, "Tech's racial diversity problem meets its day of reckoning." In 2020, there was heightened scrutiny in the United States over systemic racism in the tech industry. "Institutionalized discrimination prevents many Black people from maintaining careers in enterprise IT," said Peter Beasley, executive director of BUiLT.



Common Biases We See in Cybersecurity Include:

- **Appearance bias** where we make assumptions about people's ability or inability to do their jobs based on what they look like. For example, seeing tall men as leaders or fat people as lazy, or feeling that Black people cannot be put in sensitive positions of trust.
- **Halo effect bias** where we make a judgment about someone that we know little about based on something regarded as "positive." We then use that one positive attribute to assess their overall qualifications. In the workplace, this can manifest in seeing an employee who is charismatic or outgoing as a higher performer than someone who keeps to themselves. The fact that someone is perceived to be attractive, or not, can elicit many unrealistic judgments about someone's work qualifications.
- **Attribution bias** is similar to halo effect bias in that we make a judgment about someone's behavior based on their overall character without looking at specific circumstances. An example would be assuming that a female coworker is disengaged and uninterested in after-hours career or networking opportunities without considering the other responsibilities she has to manage after work.
- **Age and authority bias** where we assume that someone is more or less qualified based on age and experience. An ISC2 and Cyversity webinar poll provided a great example of age bias in the workplace. When shown a picture of two white men side by side (one without hair and in a suit and tie, and the other with a modern haircut and collared shirt), people naturally assumed that the older man would not be a good hire for a Marketing Director job. That said, they did think he would be a good hire for an operations role.
- **Authority bias** is similar to age bias but refers more to our inclination to give greater credibility to people in authority positions. In the workplace, this can look like "the boss is always right." Outside work, it can mean making decisions based on "influencer" or "expert" opinions.
- **Affinity and similarity bias** is where we gravitate towards people "like us." This can show up in big ways like hiring managers seeing people who went to the same Ivy League school as they did as more qualified than people from different education or work backgrounds. It can also show up in small ways like two people who both grew up in New York and enjoy 90s hip hop naturally having something to talk about during a job interview.
- **Conformity bias** is when we change our behavior and sometimes beliefs to fit in. At work, this can mean everything from the dress code to the sports teams we follow to who we think "is a good fit" based on all of the factors we outlined above from looks to background and even gender and race. Employees and employment candidates often "code-switch," a strategy that people use to alter their self-presentation in different contexts and situations to eliminate negative effects of conformity bias. Some data suggests that employees who code-switch are viewed as more professional, compared to those who don't code-switch and stay true to their own behaviors and beliefs may face. This bias cuts both ways, where those who code-switch may obtain favorable opinions from some people, but obtain backlash and accusations from other groups for acting "fake." When employers and employees expect conformity in the workplace many opportunities are missed, those that come when people are free to be themselves.

The Employer's Responsibility to Mitigate Bias

While we speak with a focus on dealing with bias against underrepresented groups, it is well understood that addressing harmful bias against anyone is everyone's responsibility.

One main responsibility around managing bias includes making sure that it doesn't trickle into the processes, procedures, and culture of our collective organizations. If we truly want to attract and hire a multicultural workforce to the cybersecurity field, we have to look at how bias shows up in job descriptions, interviews, job assignments, and promotions and eliminate it where we can. For example, hiring managers may overlook certain candidates due to bias, and new hires may feel like they cannot be authentic and must conform to fit in with the organization's culture.

Some best practices include:

- Baseline and perform a self-assessment on the organization. Document the breadth of diversity the organization has within its teams, and identify areas for improvement.
- Write skills-based job descriptions. Ask what competencies do you need for each job function? Understand if people can be trained for the job. Taking these steps help you assess what the position requires before any affinity bias can step in.
- Use blind telephone interviews first to avoid appearance, age, and racial bias. Anonymous job applications can also help here.
- Avoid small talk if you can, and if you find yourself drawn to a candidate because you went to a similar college or like the same music, be aware of the bias, name it, and then determine if it has any bearing on whether or not that person can perform the job.
- To avoid halo effect bias during interviews, assess the skills, training, and experiences the person has. Look at them as a full candidate rather than relying on "charisma" to guide your decision process.



- Ensure that your interview process is standardized so that all candidates are asked the same questions.
- Form diverse hiring and promotion panels to bring multiple perspectives to decision-making. This helps mitigate the impact of individual biases by promoting collective decision-making.
- Use pre-established rubrics to evaluate candidates based on the job description.
- When hiring and promoting, ensure that you incorporate feedback from peers and clients, as well as managers to avoid authority bias.
- Regularly collect and analyze data related to hiring, promotions, and workplace demographics to identify patterns of bias. Use data to inform strategies for improvement.
- Create mentorship and sponsorship programs to support the development and advancement of employees from underrepresented groups. This can help counteract biases in career progression.
- Establish feedback mechanisms to allow employees to provide input on workplace practices. Encourage open communication to address bias-related concerns.
- Hold individuals accountable for their actions and decisions, and recognize the importance of setting the right tone. Establish consequences for discriminatory behaviors and ensure a culture of accountability. Celebrate and reward people and teams for advancements they make to eliminate unfair bias. Where possible, explain how punishments were enforced on individuals in situations where people were treated unfairly.
- Promote the use of inclusive language in communications, policies, and everyday interactions. Avoid language that may perpetuate stereotypes or reinforce biases. [See ISC2's Guide to Inclusive Language.](#)

By implementing these tips, organizations can work towards minimizing the impact of unconscious bias, creating a more equitable workplace for all employees. It's important to recognize that managing unconscious bias is an ongoing process that requires commitment and effort from individuals at all levels of the organization.





Our Shared Responsibility to Manage Our Own Biases

Mitigating bias is a personal responsibility that individuals can actively undertake to contribute to a more inclusive and fair environment. Here are some tips for individuals to mitigate bias:

- **Taking a Self-Assessment:** Take an objective assessment on your own tolerance and intolerances. Recognize whether you have lived, gone to school, and worked in cities, places, and with teams of diverse or polar groups of people. Identify if you have moved broadly in your life, or stayed around the same types of people most of your life. Harvard's Implicit Association Test (IAT) is one such tool that measures the strength of associations between concepts (e.g., people of color, LGBTQIA+) and evaluations (e.g., good, bad) or stereotypes.
- **Learning Through Self-Education:** Take the initiative to educate yourself about various forms of bias, including unconscious bias. There are over 15 types of unconscious bias so there are many to learn about and how they show up in the workplace. Understanding the nature of biases is a crucial first step.
- **Having Diverse Perspectives:** Actively seek out diverse perspectives and experiences. This may be through formal engagement with fellow colleagues through courageous conversations or just reading different newspapers than you normally do. This can help broaden your understanding and challenge stereotypes. When making decisions, consciously consider multiple perspectives to avoid being influenced by unconscious biases.
- **Being Open-Minded:** Cultivate an open mind and be willing to consider alternative viewpoints. This can help prevent the reinforcement of biases.
- **Sharing Mindful Communication:** Be mindful of your language and communication. Use inclusive language and avoid making assumptions about individuals based on stereotypes.

- **Accepting Feedback and Accountability:** Encourage and accept feedback from others about your behavior and decisions. Hold yourself accountable for addressing any biases that may emerge.
- **Having External Mentors:** Be sure to obtain feedback from people objective to the situation, but from people who care about you. Many professionals rely on past supervisors and former co-workers to accept positive and negative feedback. People external from your current workplace may have different viewpoints which eliminate negative cultural norms that may influence the feedback you receive.
- **Employing Objective Decision-Making:** Strive for objectivity in decision-making processes. Implement structured approaches and rely on data and criteria rather than subjective judgments. So when hiring or evaluating employees use a pre-established rubric to compare all applicants or employees against.
- **Taking Diversity Training:** Participate in diversity and inclusion training programs. These programs can provide insights into different perspectives and help you understand the impact of bias.
- **Pausing and Reflecting:** Before making decisions or forming opinions, take a moment to pause and reflect. Consider whether your judgments may be influenced by biases. Yes, in today's workplace we are moving fast to be competitive but sometimes taking the time upfront will save you tons of time such as rehiring or retraining on the back end.
- **Being an Ally:** Actively support and advocate for individuals who may be targets of bias. Be an ally by speaking up against discrimination and promoting inclusivity.
- **Adopting Continuous Learning:** Recognize that mitigating bias is an ongoing process. Stay committed to continuous learning and improvement. Staying informed about current issues related to diversity, equity, and inclusion. Being aware of societal challenges can help you navigate workplace dynamics more effectively.
- **Volunteering to Improve Tolerances:** One way to actively eliminate negative biases is to volunteer to help people and causes in areas where self-improvement is needed or desired. If you have intolerances with working with women or people of color, for instance, find ways to volunteer or support their causes. Volunteer work in food pantries or supporting victims of abuse can help you develop empathy for others. The work can be in the back office, providing technology services, or on the front-line where interactions with diverse groups happen more directly.

By incorporating these tips into their daily practices, individuals can play a significant role in mitigating bias and contributing to a more inclusive and equitable workplace. It's important to approach this process with a willingness to learn, grow, and foster positive change.



Navigating and Addressing When You May Be a Victim of Harmful Bias

Unfortunately, if you are a person of color or perceived to not be male, for example, you will likely face bias in the cybersecurity industry and workplace. Outcomes and [your colleagues' responses in the workplace may not be the same as yours](#). When faced with harmful bias, you may be inclined to not report an incident if you feel that it won't be handled properly, or you don't want to take on the emotional burden of dealing with [counterclaims](#). When considering to 'do nothing', it has been reported that organizations use silence and non-disclosure agreements to allow misdeeds to go unpunished and for others to be unaware of bad work cultures.

There are a number of resources available for organizations looking to spot and address bias, but for individuals, you are often left on your own to manage.

Both [Harvard Business Review \(HBR\)](#) and [Fast Company](#) have addressed this issue, while the nonprofit organization, [The JED Foundation](#), also outlines a number of steps you can take both individually and professionally to respond to bias and discrimination. These include:

- **Understand what your goal is.** Do you want the behavior to stop? Do you want the perpetrator or groups to apologize? Hollow apologies without change are not necessarily going to move the needle. Be clear about how you want individuals and organizations to respond to the incident.

- **HBR recommends using the CPR method which it describes as “ Content (a one-time incident), Pattern (a series of incidents), or Relationship (the impact of a pattern on your ability to work productively with others).** When an issue is overt and egregious — someone makes an intolerant comment — a content conversation works fine. However, with subtleties, you must gather more data until you can describe a pattern. For example, if the boss repeatedly reaches out to your direct reports and not to you, be sure you can cite a few instances and draw attention to the pattern or else your manager is likely to respond with sincere explanations of the single instance you’re describing. Finally, consider addressing the relationship issues by helping others understand the cumulative effect of their behaviors on trust, cooperation, self-esteem, etc.”
- **Be clear about the details of the incident or series of incidents.** Document the facts and keep records of any conversations you have. If you feel that bias is affecting your career prospects and progression within your organization, this will be useful if you decide to engage with Human Resources or another trusted ally.
- **Get feedback from multiple people and document these conversations.** If you believe you are being unfairly treated, be sure to have counter feedback to support your claim.
- **Take care of yourself.** The ongoing accumulation of small biases can take its toll on your mental health, this is what some have said is “death by a million cuts.” While it is important to address these incidents when they occur, it’s equally important to acknowledge that this plays an unfair emotional burden on victims. You do not have to seek retribution to right the wrongs to benefit larger groups of people; your primary responsibility is to take care of yourself and operate based on what you can handle, and what you cannot.
- **Use setbacks in life as an opportunity to learn your “Why.”** Life is a journey and we all have a purpose. The sum total of our personal experiences makes us unique, and given the challenges we will all face in life, some people use those moments to start nonprofits and join social causes to improve the life for others.



What Happens If Bias Goes Unchecked

People like people that are like themselves, and this is not always a bad thing. When left to surface-level similarities, there's nothing inherently wrong with men who went to Boston College liking to hang out with other men with similar backgrounds. The problem is when we let these biases go unchecked in the workplace and accept "not a good fit" as an answer. We end up leaving certain groups out, and maybe hiring people that are not actually "fit" for a position while overlooking others who are better performers or more qualified. This unchecked bias may lead to a lack of diversity and inclusion in the workplace. And taking a longer view, when certain groups become too similar, that hinders the organization's ability to attract and retain a diverse workforce.

When bias goes unchecked in the workplace, it leads to a variety of negative consequences that impact both individuals and the overall organizational culture. Unchecked bias can result in discriminatory practices, where certain individuals or groups are treated unfairly based on their characteristics such as gender, race, age, or other protected attributes. Bias can contribute to the creation of a hostile work environment, where employees feel uncomfortable, unwelcome, or unsafe. This can negatively affect morale, productivity, and employee well-being. Unchecked bias erodes trust among employees. When individuals feel that they are not treated fairly, trust in leadership and colleagues diminishes, negatively impacting collaboration and teamwork.



Employees who perceive bias in the workplace may experience decreased morale, leading to disengagement and a lack of commitment to their work and the organization. Persistent bias can contribute to high employee turnover, as individuals who experience discrimination or feel marginalized may choose to leave the organization in search of a more inclusive workplace. And no organization wants to be exposed to potential legal risks. Discrimination based on protected characteristics is prohibited by law in many jurisdictions, and the failure to address bias may result in legal consequences, including lawsuits.

Bias can compromise the quality of decision-making processes. If decisions are influenced by stereotypes or prejudices, they may not align with the organization's goals and values. A lack of diversity and inclusion stemming from unchecked bias can limit the range of perspectives and ideas within the organization. This can impede innovation and creativity, hindering the organization's ability to adapt and thrive.

Organizations with a reputation for tolerating bias may suffer reputational damage. This can affect relationships with clients, customers, and partners, as well as the ability to attract top talent. A lack of diversity and inclusion resulting from unchecked bias can lead to missed opportunities for innovation, market insights, and better decision-making, as diverse perspectives are not adequately considered.

It is essential for organizations to be proactive in addressing and mitigating bias through comprehensive diversity and inclusion initiatives, training programs, and policies that promote a culture of fairness and respect. Leaders play a crucial role in setting the tone and demonstrating a commitment to creating a workplace that values diversity and actively works against bias.

The [2023 Edelman Trust Barometer Global Report](#) identified that 80% of employees expect CEO's today to take a stand against discrimination.



Top Tips for Moving Forward

First, we have to recognize that in the cybersecurity industry, bias is actively hurting the industry and our communities. Seventy five percent of cybersecurity professionals view the current threat landscape as the most challenging it has been in the past five years, and only 52% believe that their organization has the tools and people needed to respond to cyber incidents over the next two to three years. More professionals must be allowed to enter the workforce.

We know that bias contributes to the workforce gap, which grew 13% from 2022. There are roughly 4 million cybersecurity professionals needed worldwide, meaning that the profession needs to almost double to be at full capacity. And we also know that one of the only ways the field can keep up is by bringing in fresh perspectives and ideas to keep up with evolving hackers and security threats.

The good news is that the industry understands that there's value in a diverse cybersecurity workforce. Sixty nine percent of cybersecurity professionals say that an inclusive environment is essential for their team to succeed, and 65% feel that it's important that their security team is diverse. In addition, more than half (57%) say that DEI will continue to become more important for their cybersecurity team over the next five years.

Diverse organizations are more likely to perform better financially, and diverse teams are needed to fight groupthink and homogenous ideas. This is true in all organizations, but especially true in cybersecurity where the threats are evolving at a rate we cannot keep up with.

To ensure that we have the most effective workforce to combat these threats, organizations and individuals have to commit to managing bias by:

- Understanding what it is and why it exists
- Articulating how different types of biases show up in the workplace
- Offering training and tools for employees to understand their own biases
- Creating an open and transparent environment where employees feel comfortable addressing bias
- Putting programs and metrics in place to measure progress
- Realizing everyone has biases and addressing harmful bias is everyone's responsibility





Hope for the Future

The news is not all gloom and doom. According to [ISC2's latest Cyber Workforce Study](#), there is evidence that the industry is changing.

Within the US, Canada, Ireland and the UK, 70% of cybersecurity professionals 60 or older are white men, and in those same countries, just 37% of those under 30 are white men. A shift of over a 30% change in racial and gender demographic demonstrates how active partnerships like those between ISC2 and BUiLT can make a difference.

But, in the under-30 group, women represent only 26% of the cybersecurity workforce. There is still room for growth, with managing bias just one way to change the gender and ethnic breakdowns of the new workforce. In every way, there is much work still to be done.

The cybersecurity industry, of all the careers in tech, is uniquely positioned to make a measurable improvement toward racial diversity. The workforce gap for needed professionals grew by 12.6% from 2022, where 67% of respondents in the Study reported that their organization has a shortage of cybersecurity staff needed to prevent and troubleshoot security issues. Couple this workforce gap with a world now fueled by artificial intelligence where the current threat landscape is the most challenging it has been in the past five years.

As a result, the gap in the workforce in cybersecurity is forging new ways to enter tech.

"We saw a significant shift in who is entering the cybersecurity profession and how they are doing it. Our study found that new workers are significantly more likely to have received a bachelor's degree in cybersecurity before entering the field and are also more likely to previously have worked in a non-IT role. They are less likely to have worked in IT before entering. We also found that there are significantly more people entering cybersecurity later in their career and that the gender and ethnic breakdowns of the new workforce have undergone a considerable shift."

People of color, women, and others who have historically been left out of the tech industry are finding new pathways into tech through cybersecurity.

We cannot let past histories of bias influence our paths into the future. Everyone has a responsibility to avoid harmful bias against others, and with self-reliance and help, anyone can mitigate and manage bias to achieve new career goals in tech through the cybersecurity industry.



Blacks United in Leading Technology® International (BUiLT), founded in September 2020, increases the representation and participation of Black people in tech. And as we hold the **Three Doors Open**, others can follow in too.

BUiLT's 2022 annual survey reconfirmed what Black professionals seek most:



Professional networking



Jobs



Technical training/ certification opportunities to advance their careers in tech

BUiLT's growing worldwide footprint meets those needs with programming on career and professional development, technology training, and volunteer opportunities to hone leadership skills.

Our partnerships with organizations like ISC2 are vital to the industry's success at filling the hundreds of thousands of technology jobs with people who bring creativity and diversity of thought in today's business problems are solved.

ISC2

www.ISC2.org

How to Get into Cyber © 2023 – (Getting In)

Student Pathways Guide from Class to Your First Gig © 2023 – (Student Pathways)

You Already Have the Skills and the Talent: A Guide to Switching to Cybersecurity Mid-Career © 2023 – (Career Switchers)

How to Stay and Advance in Cybersecurity © 2023 – (Staying & Advancing)