



GENDER EQUITY

IN COLORADO'S STEM INDUSTRIES:

THE CASE FOR FOCUSED WORKFORCE INVESTMENT

Prepared by KP Advisors

THE WOMEN'S
FOUNDATION
OF COLORADO

The Women's Foundation of Colorado would like to thank the members of our STEM Coalition for sharing our commitment to improving gender equity in the STEM workforce and for making this report possible.

- **Arrow Electronics**, co-chair
- **CH2M**
- **Goodbee & Associates**
- **Lockheed Martin**
- **MWH, now part of Stantec**, founding co-chair
- **QEP Resources**
- **SSG MEP**
- **Stephanie Copeland**
- **Suncor**
- **Zayo Group**

YOU CAN FIND THIS REPORT ONLINE AT: WWW.WFCO.ORG/STEM

WOMEN MAKE UP

46%

**OF THE TOTAL COLORADO WORKFORCE,
YET THEY ARE LESS THAN A THIRD OF
ALL STEM WORKERS IN COLORADO**

(IWPR, 2015).



Executive Summary

Colorado companies are ideally positioned to take advantage of the rapid growth in science, technology, engineering, and math (STEM) industries across the nation.

Colorado ranks among the top ten states in the country for the percentage of STEM-related jobs as compared to all jobs (Koebell, 2015) and one of the top two states for the most entry-level STEM jobs (Burning Glass, 2013). While the demand for STEM talent grows, the supply of STEM graduates is not keeping pace with the needs of companies. Throughout much of the STEM workforce, women are notably underrepresented, especially in engineering and computing, which comprise more than 80 percent of STEM jobs (Corbett & Hill, 2015).

**STEM-RELATED
OCCUPATIONS
ARE PROJECTED
TO GROW**

2X

**FASTER THAN
NON-STEM**
(ESA, 2011).

Developing effective STEM programs in Colorado's K-12 schools and institutions of higher education is essential to increasing the representation of women in STEM industries. Building inclusive companies and industries where all can thrive and innovate for the future is equally important. Colorado companies simply cannot afford to fail to attract women into the STEM workforce. Moreover, STEM industries urgently need to make changes to stop the loss of female talent that enter and then leave the STEM workplace. Half of women technologists drop out of the workforce between entry and executive level (Anita Borg Institute, 2013). And over half of the women in science, engineering, and technology, who leave their jobs use their technical training in other sectors, and a third go to work in a non-STEM job (Hewlett, Luce, Sherbin, 2008). Keeping women in the STEM workforce will require companies to offer a flexible, positive work environment with competitive pay and benefits, and opportunities for promotion.

At The Women's Foundation of Colorado we have witnessed the slow progress that has been made in these fields and have been working with Colorado STEM companies to learn more about challenges and opportunities to growing a more diverse STEM workforce. In the full report, *Gender Equity in Colorado's STEM Industries: The Case for Focused Workforce Investment*, you can learn more about the current state of the STEM workforce in Colorado and the benefits of diverse workforces. Drawing from a body of established research, the report suggests concrete steps that STEM industries, companies, and individuals can take to make a lasting impact on the equity and inclusion of women in Colorado's STEM industries.

THE DIVERSITY ADVANTAGE

A wealth of research over the past decade consistently demonstrate that companies often experience the following advantages and benefits when they hire and retain a more diverse and inclusive workforce: (Catalyst, 2013 and Anita Borg Institute, 2013)

- **Improved Operational and Financial Performance:** Better financial performance, higher return on equity, higher return on invested capital, performance that outperforms industry averages, improved corporate sustainability, and increased productivity
- **Reflecting the Marketplace and Enhanced Company Reputation:** Better corporate governance, better corporate oversight, higher likelihood of being considered ethical, and higher customer satisfaction
- **Increased Innovation and Group Performance:** Better problem solving abilities, increased creativity, increased innovation, and increased knowledge formation and patents
- **Leveraged Talent:** Higher employee satisfaction, decreased turnover, and increased percentage of women in line positions

Women's experiences must be a larger part of science, engineering, math, and technology work if we are to solve today's challenges and design the best future products possible. The low numbers of women in tech-intensive industries underscore the work that remains to be done, and the required change to increase the trajectory of women in STEM. The field must do more to leverage its highly qualified female workforce.

While there have been significant gains in the proportion of women who work in the biological sciences, there has actually been a decline in the proportion of women who work in the computing field over the last twenty-five years, and only slight gains in the proportion of women in engineering occupations.

-NSF, Science & Engineering Indicators

**IN 2014, WOMEN HELD
26%
OF COMPUTING OCCUPATIONS AND
13%
OF ENGINEERING OCCUPATIONS.**

-NSF, Science & Engineering Indicators



BARRIERS FOR WOMEN IN THE STEM WORKFORCE

Women are making significant contributions within STEM fields yet they are a distinct minority in these industries. While the low number of women graduating with engineering and computing science degrees has an influence on the number of women who are available to hire, it is not the only factor affecting a company's ability to recruit and retain women in STEM jobs. Recent research on why some women leave the engineering workforce and others stay indicates that the important variable is more often in the workplace, not the individual.

For women to be fully integrated into these fields a change in the environment is necessary. The subtle, and unspoken bias, or unconscious bias in the workplace, creates barriers for women to fully contribute their ideas and leadership, and leads to exclusion. The unconscious biases that we all hold influence our behaviors and actions. Dissimilarity in terms of gender, race, and other areas and unconscious biases can result in lower levels of supervisor support and relationship quality; unclear or unfair promotion processes;

and lesser access to professional development, social networks, and important committees.

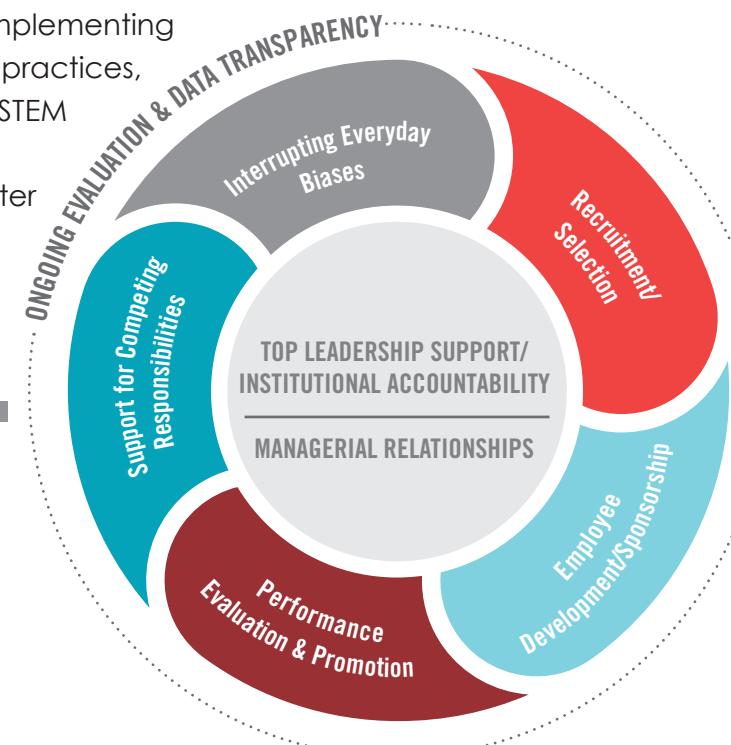
Addressing the challenges of women in the STEM workforce requires workplace environments that provide flexibility and promote healthy work-life balance. Key components of a healthier work environment for women and men include manageable workloads and expectations that do not promote excessive hours on a routine basis, flexible work schedules, paid parental leave, and telecommuting. These types of workplaces are essential to attracting and retaining the best talent, especially given the increase in dual-career families – in fact, Millennials are twice as likely to have a spouse/partner working than Boomers. People across generations report work-life challenges and a desire for greater flexibility (EY, 2014).

In an economy that is increasingly dependent on science and technology, the STEM-educated professional has a range of career options. Professionals in STEM industries may find employment outside of the STEM workplace for various reasons. The competitive talent marketplace underscores the importance of STEM industries working hard to attract and retain women.

PATHWAYS TO GENDER EQUITY AND INCLUSION IN STEM WORKFORCES

Colorado companies that are committed to having more women in leadership and throughout the ranks can consider implementing the following changes in organizational policies and practices, and review The Women's Foundation of Colorado's STEM Resource Guide to find a wealth of resources about STEM and women in the workforce. The National Center for Women and Information Technology (NCWIT) presents an ecosystem approach to achieving meaningful changes inside companies that are committed to gender equity and inclusion.

At the core of NCWIT's model are three foundational steps to create more equitable workplaces:



1 Establish top leadership support and institutional accountability

Top-level leaders need to make a long-term commitment to developing an inclusive workplace. There is no one solution that will work for all organizations. Companies need to engage in multi-pronged efforts that address systems and individual levels in recruiting, retaining, and advancing women in the workforce. Women leaders on the executive team and on boards can have a significant, positive impact on gender diversity throughout all levels of the company, and in STEM fields as a whole.

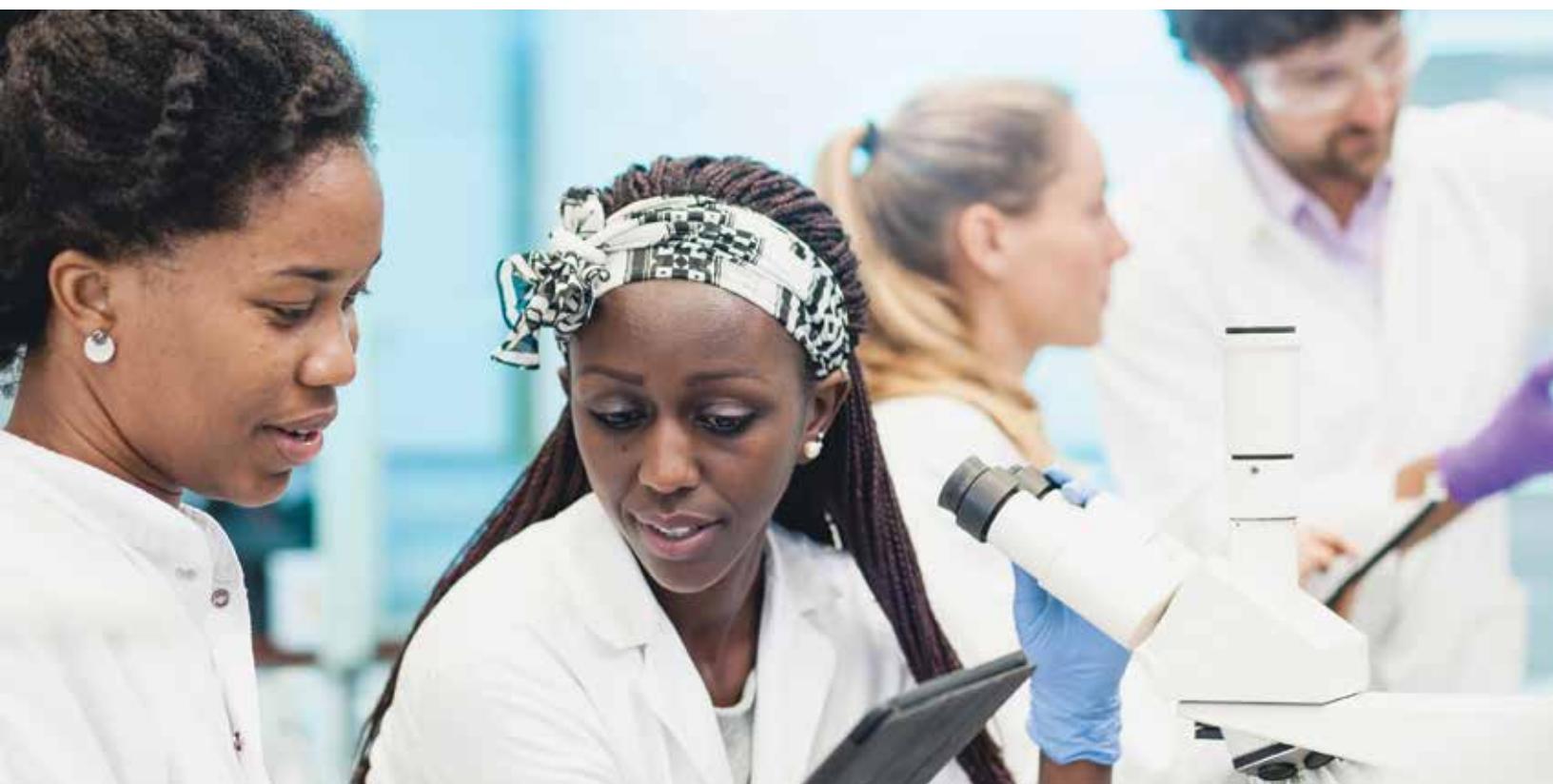
2 Educate managers and improve managerial relationships

The managerial relationship is one of the most critical elements affecting gender equity and inclusion efforts in a workplace. Women who left a STEM workplace were less likely to report support from a manager, opportunities for development, and support for work-life balance. Focus on the education and training of managers to be inclusive leaders. Assess the company's supervisory relationships, performance criteria, and

promotion policies and practices for inclusivity and unconscious bias. Well-defined performance evaluations that are gender neutral, clear paths toward advancement, and strong supervisory relationships are important factors to retaining highly qualified women.

3 Ongoing data collection and transparency (Ashcraft et. al., 2016)

Companies that want to make progress must first work to understand the current situation and collect data regarding their own gender diversity and inclusion. After establishing a baseline with data, set tangible outcomes, hold individuals accountable, and monitor progress. Use data as an ongoing feedback mechanism, and consider how to do things differently in order to get the results you desire. Seek out best practices, and share your successes and learning points with the field. Learn from your peers and know where you stand in regards to gender equity and inclusion relative to others in your field.



There has never been a better time to work together to advance gender equity and inclusion in Colorado's STEM workforces. Our economy is strong and STEM industries are growing. But not everyone in Colorado is able to take advantage of our abundance, and we are not yet experiencing the benefits that thousands of women can bring as STEM leaders and employees. The Women's Foundation of Colorado and our STEM Coalition are excited to work with companies and industries throughout the state to help us all get on – and stay on – the path to ensuring that everyone in our state has the opportunity to be an active part of Colorado's future growth.

WFCO's STEM Employers Resource List provides more information and is available in the full report and at www.wfco.org/STEM.

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