

Fragomen's Semiconductor Industry Group introduces the "Voice of the Industry" Q&A series, designed to provide readers with insights and perspectives from leaders within the sector.

The December 2024 Q&A spotlights Suzanne Plummer, Fellow and Corporate Vice President of Technical Diversity and Development with AMD.

Suzanne, as you have worked in the industry over time, and more recently have dedicated your career to increasing diversity in the industry, can you share a look back on how the makeup of women and men has changed over the years?

Between 1970 and 1990, the percentage of women in **all** STEM fields in the U.S. increased significantly from 7% to 23%. However, since then, the progress has been slow, with only a marginal increase in employment in all STEM fields from 23% in 1990 to 26% in 2022. Engineering specifically has seen an increase from 12% in 1990 to 15% in 2022. *Source: U.S. Department of Labor*

Although the exact percentage of women engineers in the semiconductor industry is challenging to obtain, most sources indicate a consistent but slow rise in the past decade.

According to the Global Semiconductor Alliance (GSA) Surveys, in 2023 women made up 20-29% of the total semiconductor workforce, with only 10-19% in technical roles. The GSA, which represents more than 100 major companies in the industry, has highlighted the urgent need to improve gender diversity within engineering and technology. Jodi Shelton, Founder and CEO of the GSA, stated, "If we are going to become a trillion-dollar industry, we cannot ignore half the population."

Our industry is making progress through focused efforts in recruitment, retention and development initiatives for women. AMD tracks gender diversity for our company and key talent competitors, and we have observed some collective progress in recent years.

As someone with such an accomplished career in the semiconductor industry, how have you seen the opportunities for women evolve over time?

I have seen, first-hand, more women moving into VP and C-suite roles within the companies that I have worked for. When I started my career in engineering in 1989, I do not remember seeing a single female face in a top-rank position. Fast forward to 2024 at AMD, there are six women holding top-level positions, including the CEO and lead independent Director of the Board, along with numerous other women in VP positions. Having women leaders in key roles is essential to change mindsets and empower others to follow.

The industry "feels" different and more welcoming to me now than it did 30 years ago, but I also recognize that, as a CVP, I am sitting in a position of privilege relative to younger women and what

they are experiencing. I am passionate about seeing women succeed, and my new role allows me to be a catalyst for change and an advocate to help drive others in their careers.

In your view, what are the most significant challenges women in the industry face?

Although the numbers are gradually increasing, there is still a lack of representation at all levels of the semiconductor industry. This can lead to a feeling of isolation for the women who are there as many see few (if any) female role models in their organization as examples to aspire to and learn from.

Additionally, the concept of the “broken rung” in the female technical pipeline is well-documented. As illustrated in a [McKinsey article](#), women leave technical fields after four to seven years for a variety of reasons, including a feeling of isolation, inequitable attainment of early promotions and managers with little leadership training or experience. The article also notes that, “Companies can better support the advancement of women in technical roles by providing them with opportunities to build a wide array of skills, along with structured guidance on their professional development.”

To further progress, it is important for companies to recognize that having women engineers not only allows them to build diverse teams, but it is also an opportunity to foster a workforce with many perspectives.

Historically, women have often assumed much of the domestic labor in various family structures, which can present a different set of challenges to career advancement. Have these challenges changed over time, or do they remain relatively constant?

I do not have statistical data on this, but from my perspective, I see a *slight* improvement in load-sharing responsibilities at home. Maternity leave time has increased since I had my children, and it’s encouraging that more companies are offering significant paternity leave. This is a win for the entire family as it indicates that companies understand men share the responsibility for raising children with women.

Additionally, it’s important to acknowledge that these traditionally normative dynamics can also affect same-sex families and other non-traditional family structures. For many couples, the equitable distribution of family responsibilities has become a key part of building a supportive and balanced home life. The growing recognition of diverse family structures and their needs, including leave policies and work flexibility, is a step forward in creating a more inclusive approach to family life for all.

Do you think similar challenges apply to foreign-born talent, or are there additional considerations for primary caregivers who do not hold an inherent right to work in a given country?

These same challenges exist and are often even more pronounced for foreign-born talent. Options such as part-time work schedules to ease an employee back into work after the birth or adoption of a child are not always or easily available to someone on a temporary work permit. Individuals from other countries also may not benefit from a local family support network, which can make balancing personal demands with a demanding job even more challenging.

With these challenges in mind, upskilling existing employees, particularly women and other underrepresented groups in STEM, becomes even more crucial. Learning & Development teams can play a vital role in supporting foreign-born primary caregivers by offering cross-training and upskilling opportunities, ensuring they retain valuable skills while navigating their family responsibilities.

Furthermore, fostering internal mobility helps create flexible career pathways that could accommodate both personal and professional growth. By focusing on continuous learning, offering clear career pathways and creating strong networks for underrepresented groups, organizations can not only address the unique needs of foreign-born talent but also build a more resilient, diverse workforce for the future.

What types of company programs have you found provide the best support to women as they advance in their careers or to increase the numbers of women in the industry?

Our industry is aware that diversity leads to better products and better profitability and has been trying to address the relative lack of diversity in many ways, such as:

- Unconscious bias training to educate engineers and managers to recognize its existence and mitigate the impact;
- Promotion equity monitoring to ensure promotions are equitable and that unconscious bias does not factor into the promotion process;
- Focused hiring efforts to ensure unbiased job requirements, fair interview questions and diverse panels;
- Targeted mentorships to provide the opportunities for high-potential women with career advice and guidance; and
- “Returnship” programs, which are designed for women re-entering the workforce after a career break. These internship-like opportunities allow participants to refresh and enhance their skills by working on non-critical projects. Successful completion may lead to a permanent role within the company.

What specific programs do you recommend women in the industry participate in to help advance their careers?

Women can join technical societies or participate in conferences specifically designed for them, such as the Society of Women Engineers, The Grace Hopper Conference or the Global Semiconductor Alliance 'Women in Semiconductor Hardware (WISH) Conference.' They can also volunteer time at STEM-focused nonprofits such as GirlStart. If they do not have access to educational opportunities at their company, they can join a local Toastmaster group to develop their public speaking abilities or even hire a coach to help direct their career.

What programs does AMD offer to assist women as they advance in their career?

Diversity is so important to AMD that it is embedded in our organizational structure and culture statement: "We push the limits of innovation to solve the world's most important challenges. We strive for execution excellence, while being direct, humble, collaborative and inclusive of diverse perspectives." We have implemented most of the programs I listed above and developed a program to specifically address the "broken rung" issue. This program is called 'Advancing Women in Tech' and is a two-day seminar for women at the early- to mid-career stage. In this seminar, we cover topics such as mapping out a career path, communicating effectively, making successful presentations, networking and filing patents.

We also track our high-potential women engineers to ensure they have the right visibility and opportunities for advancement and mentoring on the path to achieving the top technical ranks of Fellow. Additionally, we dedicate the first day of our annual Fellows Forum specifically to our women Fellows. This event provides development and networking opportunities and fosters a community of innovation partners.

What words of encouragement or insight can you share with women who are considering a career in the industry, or looking to advance?

I can wholeheartedly say that the semiconductor industry has proved to be a great place for me to grow a career. I've had impactful mentors who helped guide me, great leaders who provided me with many unique opportunities that kept work interesting, and an environment that fostered learning and growth. The semiconductor industry is thriving and has an incredibly bright future. I encourage more young women to explore the exciting opportunities it offers as they set off on their own career paths.