THOUGH WOMEN MAKE up approximately half of the US workforce, at most they represent a quarter of workers in STEM jobs. Zooming in on the ‘E’ in STEM, this number drops significantly – for every 10 people working in engineering, only one will be a woman.

The Society of Women Engineers (SWE) is dedicated to changing this grim fact. Its most recent Past President, Elizabeth Bierman – who has extensive experience in aerospace engineering and is currently Senior Project Engineer at Honeywell Aerospace – describes why this non-profit organisation is hungry to empower women and inspire a surge of diversity in the field: “Engineers solve problems, and to solve problems and come up with better solutions and ideas, we need to have a mixture of people at the table. If you have a table of 10 people, and they all come from the same university, have the same gender or grew up in the same town, you aren’t going to have that diversity of thought.”

BRIDGING THE GENDER DIVIDE

Although the last few decades have seen women making great strides in formerly male-dominated professions, engineering remains one of the occupations where female employees are severely underrepresented. In fact, many studies into this trend – such as Women in STEM: A Gender Gap to Innovation, which the US Department of Commerce released in 2011 – actually show that growth of the number of women in engineering has stagnated since 2000.

There are several things that the US can do in order to overcome this stagnation. First and foremost, Bierman suggests that the nation works on inspiring women into the field at a young age. “We need to get more young girls to go into engineering,” she underscores. There are several factors that play into piquing girls’ interest in the field, such as encouraging young girls to pursue math and science, discouraging stereotypes that paint engineering as a ‘boy’ activity and finding ways to make these fields applicable to their young lives.

Moreover, Bierman notes that it is important for girls to recognise engineering as a way they can make the world a better place. “If you ask a young girl today what she wants to do when she grows up, a lot of them say they want to help people and make a difference in the world, and they tend to gravitate towards professions that enable them to help others, such as teachers or doctors,” she expands. “However, they don’t tie helping people and making a difference to engineering. As an organisation, we are attempting to do a better job at that.”

WORK-LIFE BALANCE

A second way to increase gender diversity in engineering comes down to keeping women who have entered the profession in it. “A lot of people think that women leave the engineering workforce when they have a child in order to stay at home and provide care, but that is not always the case,” Bierman shares. As evidence to back up this statement, she points to the SWE Retention Study and Work/life Balance, a national survey that the organisation undertook in order to find ways to retain valuable employees in engineering. The results of the study showed that women’s desire to help people and have an impact are just as important factors for staying in engineering as they are for being inspired to enter the profession. “Women want to know that the work they are doing is impactful,” Bierman explains.
Moreover, the study also shows that women want opportunities to be challenged and to succeed in their careers while being able to achieve a work-life balance. For example, flexible work schedules, clear career paths and positive relationships with managers are all important aspects of keeping engineers satisfied in their careers. The study also suggests that companies with prenatal programmes, telecommuting options, child care facilities, elder care referral services and financial planning services create environments that better enable employees to integrate their working and social lives, thus keeping those employees engaged in their jobs and promoting stronger intentions to remain with their employer. “It is also important to be aware that these are not strictly women’s issues; men also want to be able to have a life outside of work and to be challenged in the workplace,” Bierman stresses. “Allowing both genders to take advantage of work-life policies is what is going to retain all engineers.”

MENTORS AND SPONSORS
For years the business world has been encouraging professionals to find mentors that they look up to and can engage with in order to further their expertise and careers, and Bierman sees mentorship – both in and out of the workplace – as an important way of retaining women in engineering. However, she notes that it is important for mentees to have a reason behind their quest for a mentor: “You don’t want one just to say you have one. You want that mentor because they are doing something that you value and want to gain experience from them”.

Mentors can play an important role in helping women engineers starting out in their careers by providing them with advice or helping them gain experience in a specific area. SWE greatly encourages its members to act as mentors to those entering the field, both formally and informally, so that collegiate members can interact with professional members and get a sense of what the workplace is like and what they are going to be doing on a day-to-day basis.

Another tool that Bierman sees as incredibly important to retaining women in the field is sponsorship: “The difference between a mentor and a sponsor is that a sponsor is going to do something to actually advocate for you”. While she notes that there are risks in acting as a sponsor, she calls for women to sponsor other women that they believe in, as helping others to progress into higher positions in the field is key to closing the engineering gender gap. In fact, without a sponsor, Bierman might not have become President of SWE or attained her current role in Honeywell. “When I was elected as President of SWE, a sponsor within Honeywell advocated for me and helped me get an assignment with greater flexibility so I could succeed both in my job and the presidency,” she shares. “It was an interesting relationship, but we both had vested interest in it succeeding, which made it successful.”

WIDENING OPPORTUNITIES WORLDWIDE
At the heart of the organisation’s activities is a burning desire to increase the number of females entering engineering, a field rife with opportunity for women to do great things, help others and create bright futures. In her years as President, Bierman not only wanted to have this impact on female engineers in the US, but ones all over the world – and she feels like she made strides in her time. “Many women outside the US are going through the same issues that we are here, and SWE wants to start working internationally to empower women everywhere,” she concludes. “It’s going to be a win-win for the women in SWE and women in other countries.”