



Reflections on the Future

Step up and be a role model for women in STEM: Actions that make a difference

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As a young girl, I fell in love with tech and science, and my early inspiration came from reading the stories and accomplishments of greats like Grace Hopper, Jane Goodall, and Amelia Earhart. When I was 14, I signed up for Electrical Engineering and was the only girl in that class. Luckily, I had a teacher who believed in every student in his class, including me. It was in that class that my teacher taught me to creatively bind and solder different coloured wires, secure them to a circuit board, attach a speaker, and create a sound. I was hooked!

This teacher told me the four most empowering words: “I believe in you.”

But throughout my career, as we still struggle to attract women into the field, I have to ask - **where are all the role models?** In 2021, Europe faces a shortage of at least 500,000* skilled ICT workers (*European Commission) and women make up less than 30% of Europe’s ICT workforce. Initial reports on the impact of the current global COVID-19 pandemic, indicate that the gap has widened even further, since unemployment is four times higher for women than for their male counterparts. To achieve equality in the tech workforce by the year 2030, it requires another 8 million girls and women to choose a course of study and career in technology. According to CBS research in the Netherlands for example, only 7% of women graduate with a higher education degree in STEM (Science, Technology, Engineering and Math), as compared to 30% of men.

In addition, data from the World Economic Forum (2020) indicated that nearly every company would become a digital company, that is, if they had not already become one yet. The COVID-19 global pandemic has accelerated this digital transformation, and there is abundant opportunity for women. As more processes become automated, for example, the tasks performed in administrative roles that are mostly executed by women today, roles will be displaced. We see the introduction of more creative and analytical roles in industry - diversity in the development of new technology is as important as diversity in the industry more broadly. For example, we want to train computers and utilize machine learning (ML) and artificial intelligence (AI) technology that are developed by both women and men to ensure that AI not only acts ‘the way men think’ but rather represents our society holistically and in its entirety.

“If you are not part of the solution, you are part of the problem.”

So, what is the solution? I believe it is to inspire both girls and women to choose a career in technology, to reduce the ICT workforce shortage and ensure diverse representation in the digital transformation of our society. However, research indicates that women give up on technology at age 14, and those who do get started with a career in tech lose interest when they encounter a lack of diversity and inspiration. The main reasons I have observed are:

- There is a lack of role models
- Gender-bias
- Lack of stimulation and motivation
- Misconceptions about social interaction, impact, and creativity in tech

To ensure that transformation in the digital era is futureproof, we must address diversity in the tech industry. To be more specific: more diversity in the tech workforce, **and** more diversity in the development of new technology. We can all take small actions that will make a big difference.

“Many small people, who in many small places, do many small things that can alter the face of the world.”

– Quote on Berlin Wall

One example of creating and enabling diverse and high impact ecosystems through the empowerment of technology, is found in the farming sector of the Agriculture industry. In Africa, women dominate the farming industry where they are the majority of farm owners and operators. The World Economic Forum, in collaboration with Corporations and scaleup companies, recently launched projects in Africa that focus on enabling women with data to run and operate their farms more efficiently. By having the right data at hand, these women can improve the way the farm is run, and in turn, increase the livelihood and sustainability of their local village and community. When these women are more successful, their society and the economy benefits as well.

Women also have an important role to play in their own self-development. It is equally as important to be an accomplished woman in tech as it is to be competent in business. Essential skills include personal branding, storytelling, public speaking, visibility, pitching ideas, negotiation, and confidence building. More than 80% of women become inspired hearing other women talk about their successes and accomplishments. But stubbornly, most women would rather minimize their own successes than tell people about them. Women over 55 are much more averse to self-promotion than their younger counterparts, as they prefer to simply “blend in”. Not only do women avoid self-promotion, but they would also rather down-play their accomplishments than own up to them. It’s not these women’s fault, they were raised this way. For these women, it is less about the success of the individual, and more about the success of the team, and as such, they embrace a “when the team wins, we all win” mindset. However, this attitude has a domino effect on the progress women can make in business and needs to be unlearned to allow greater visibility of their accomplishments.

What do you do to support, encourage, and empower high-potential women?

Throughout my career, I have observed several incredibly talented, hard-working, remarkable women get passed over for promotions and advancements in favour of male counterparts. This has

also happened to me. What I have learned, is that women are not represented well in leadership demographics, because they are not visible to the decision makers. The important change needed to improve diverse representation in STEM is slow for several reasons:

- 1) When the CEO's, owners, leaders, and executives at the top are men, fewer women will be selected. Why? Because women are not in their network; they are not in the power networks that control the top seats, and they lack an intimate understanding of the inner workings of professional circles. As a result, women are not on these men's radar and have not yet been seen by these men. Women and men can do better and achieve more together by mixing the networks they take part in.
- 2) Women are not the best cheerleaders for themselves. They underestimate the value they bring; are unaware of how to make themselves more visible and lack the right strategy to gain the credits that will strengthen their position and how to belong.
- 3) Biases and generalizations still exist about "the way women are" and what (type of work) is appropriate for women. Women and men need to recalibrate when judging people for what they have achieved versus their potential and avoid unintentionally denying women opportunities.

Role models are an especially important part of the solution and are necessary to inspire future female leaders to choose careers in technology. Research shows that those who have a role model are 67% more likely to be interested in tech and are more likely to perform better in tech-subjects at school than those without a role model. Encouragement can come from a variety of role models – and in particular, from the 'real world', individuals who are reachable and approachable.

***"It has never been more important than now,
to be more human than ever."***

To close the gap and empower more women to choose for tech, we need to look closely at the people we have in our teams. Today's leaders have the unique opportunity to get to know people's deepest passions, values, motivations, and talents. They need people who are opposites, and to put energy into the team and create an environment where people really love to come to work. Women and men need allies to support each other and model the right behaviours. When leaders focus wildly on the 'other side' and actively listen to understand, they will be able to start thinking in the way of those that work with them and they can achieve so much more together. Leaders who deploy flexible working policies make the work more accessible and inclusive by adapting their hours of operation or modes of distribution, resulting in far reaching benefits for humanity. Tech enabled solutions can help eliminate human biases, so we don't de-select people based on gender.

In my experience, people would much rather work for a leader who cares than someone with a title, and this is made possible when leaders bring and balance the team with the attributes of the feminine archetype. These qualities include communication, listening, being in service to others, collaboration, nurturing, showing vulnerability, compassion, respect, and having empathy. We need these attributes in business as they reflect and represent the demographics of society and are the special human characteristics that bring balance to the communities where we live.

Girls need encouragement from teachers and by women working in tech, as well as to see examples from famous institutions in technology who promote and demonstrate the need and importance for greater diversity in tech. We need to show girls and women the application of creativity to solve real world problems with tech skills and to learn to tell stories that inspire others. Being a role model in tech means being equally balanced in bringing your unique skills as an inspirational technologist or person working in tech, as much as it means bringing your whole self – your human skills – and being a great leader in business. Even the simplest phrase can be life-changing for someone else, when you say to them, “I believe in you!” Your development, support, and embodiment as a role model for young girls and for women of all ages working in STEM, is crucial.

As a final bit of advice, have your own personal courage. If it feels good to you, don’t give up on it. Don’t stop making your voice heard, being seen for who you are, leading how you want to lead, driving your purpose with passion, and doing what is right. Be yourself and change the world. Join me, and let’s close the gap and inspire the next generations of women in tech!

***When YOU think about women in tech, what picture comes to mind for you?
What is YOUR “women in tech” story??***

Author bio:

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Dr Cara Antoine has seasoned Executive experiences in digitally transforming businesses and cultures across global industries from Polaroid to Compaq, Hewlett-Packard, Royal Dutch Shell, Microsoft, and IG&H. Her inclusive mindset and approach to diversity enables organizations and the individuals who work within them, to achieve more. She serves as Netherlands President and Executive Member of the Board of Women in Tech, as Supervisory Board Member at Wortell, and on the Quality Council at the BIT Academy to excite future generations of female leaders to choose for a career in technology. As a Patient Leader, Cara's focus on visual impairments, accessibility, and social inclusion, led her to join the Board of the Corneal Patients Association and serve as Chairwoman of the Awards Jury. Her Doctor Business Administration (DBA) research at Bradford University explored individual behaviours that explain a

manifestation in relationships that influence human collaboration in the workforce and communities we live in at scale. Cara and her partner Niels have 2 grown children, Jesse (26) and Syll (22), and they live in North Holland where they enjoy taking long walks at the beach and a swim in the North Sea.