

New generation stems from current professionals

The STEM space is constantly evolving with the development of new systems, technologies and practices, as well as an increasing ratio of women in the industry. This evolution demonstrates how STEM companies need to collaborate with organisations and education providers to train, educate and inspire the next generation of STEM professionals.

Investing in future science, technology, engineering and mathematics (STEM) professionals can happen with a holistic approach at all levels of education, from primary school students right through to a university level and beyond. Pipeline repair, restoration and renewal provider Interflow is one of the companies paving the way when it comes to creating opportunities for young, innovative minds.

Childlike excitement

New Zealand based Interflow Project Manager Saadia Ali can take her love of STEM back to childhood; a passion for building things – along with a flair for maths and physics – led Ms Ali into engineering studies at university and a successful STEM career.

Interflow is working alongside Engineering New Zealand on education initiatives such as the Wonder Project – a free program for schools designed to encourage young students to be excited about STEM projects. For Ms Ali, this has been an opportunity to pass on her passion for engineering.

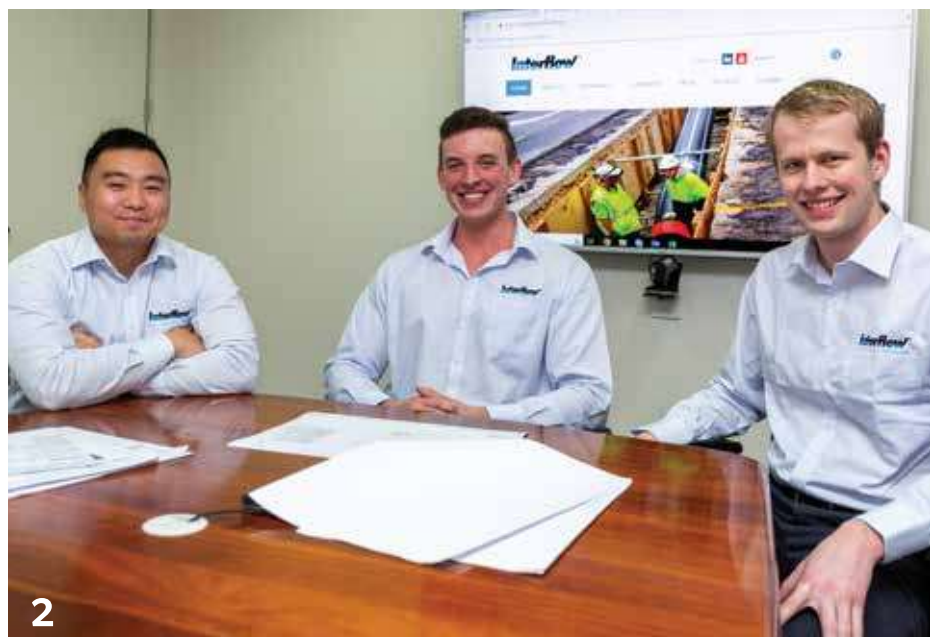
“I spend an hour a week in a classroom at a local school. They take soda bottles and build rockets out of them, and they learn the concepts of physics and what will make their rockets fly well and what will make them fail,” says Ms Ali.

“It’s about getting kids excited about things that might seem nerdy or not cool to do at school. For me, it’s really nice to think you’ve got a fifty-fifty split of boys and girls.

“You see the girls that come in and they’re really shy, they don’t want to learn about science and maths, but then they go home and research things and come back and ask questions the next week.”

While the majority of STEM roles are still filled by men, initiatives like this are encouraging a greater number of young women to pursue STEM careers.

“Part of the Wonder Project’s aim is to get kids excited who need a push from female ambassadors. There’s a definite push for those young females who





1-2. Interflow’s interns learn in a real-world work setting.
 3. Ms Ali with some of the children participating in the Wonder Project.
 4. Saadia Ali.
 5. John Monro.
 6. Keith Gover.



are coming through school to know that they can do it if they’re female, it’s not just a boys’ club,” says Ms Ali.

With traditional practices in engineering and other areas of STEM being replaced by computer-based automation, there’s an even greater need for current STEM professionals to encourage a love of basic principles to adequately prepare the next generation.

“My generation isn’t doing half the calculations or drawings that the generation before us did. The more automated and computer-oriented things are, the more the ability to problem-solve becomes a challenge,” she says.

Education stemming from experience

To provide budding STEM professionals with these basic skills and opportunities, Interflow has partnered with university students to offer mentoring and paid internships that could lead to permanent work. This partnership is important to the company considering it operates in a specialist area of civil engineering where knowledge is not widespread.

Interflow Technical Support Officer John Monro says since the area of trenchless technology is not taught in STEM degree courses, specific teaching and training must instead be developed by practitioners. Hence, Interflow interns are exposed to technologies and concepts that are an extension to their studies and can apply their basic knowledge to a fast-developing industry’s needs.

“Undergraduate STEM interns arriving at Interflow require training in both the industry and the specifics of Interflow’s practices – training which is not available externally,” says Mr Monro.

“In doing this, they are exposed to thinking outside the square, exploring the potential for thinking beyond merely applying known formulae and standard methods. The skills they can develop can be beneficially applied in whatever STEM-related career path they ultimately follow.”

When it comes to practically addressing important world issues such as climate change, STEM professionals must practice innovative thinking and operate outside of traditional practices. Mr Monro says that the STEM knowledge and skills will provide individuals with major opportunities to be make a critical difference.

Opportunities from internships

The Interflow internships started through an association with the University of Technology Sydney (UTS), which runs a five-year engineering course requiring a junior and senior internship. Interflow Human Relations Business Partner Keith Gover says Interflow’s internships provide the perfect opportunity to learn about and be involved in making these critical differences a reality.

“We’ve had a steady flow of students from UTS that come to the business, typically for their senior internship and lately we’ve taken on junior interns as well,” says Mr Gover.

“If things work out, we typically extend the internship into part-time work and beyond that we have offered some of those students work projects that

have doubled as thesis topics. We support the students and they help build our organisation. It’s a win-win.”

With practical support and training from Interflow, Mr Gover says he has watched many interns develop into graduate engineers and later into project engineers. Additionally, while many companies offer unpaid internships, Interflow has mandated that all interns be paid to give them a real working experience.

“We’re not looking to take advantage of students who want to get ahead, so we offer paid internships in Melbourne and Sydney – with plans to extend the opportunity for internships in other office locations as the business grows – and that’s really increasing our support of the next generation of STEM professionals,” says Mr Gover.

“I’m really proud of the people who have worked their way up the company after coming to us as interns, and for the contribution they’ve made to Interflow.” ●

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