

CREATING A MORE EQUITABLE FUTURE

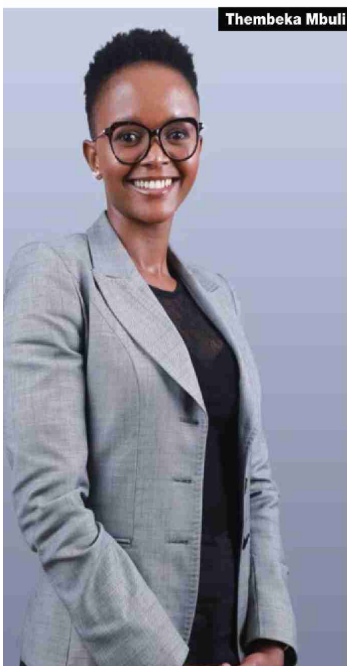
GLYNIS HORNING talks with three young women in different spheres of engineering about solving gender differences and creating a better tomorrow

THEMBEKA MBULI

A civil structural engineer with a master's in engineering management, Mbuli gained experience with WBHO Construction, WSP in Africa, Tsebo Facilities Solutions and national oil company PetroSA before joining ROMPCO in 2021 as operations specialist.

WHY A CAREER IN ENGINEERING?

Growing up in uMlazi, Durban, engineering wasn't on my radar – I was going to be a chef! Then at a Grade 12 career day, I heard about engineering and the amazing stadiums being created for the upcoming 2010 football World Cup. I was hooked! I got an engineering bursary to CPUT, and on completion of my degree, was involved in the construction of the Cape Town Stadium as part of my training.



I can't explain how thrilling it was to watch a World Cup match there, bragging to friends, "this is my work"! Looking back, though, my greatest satisfaction has come from corporate social investment projects – being given a multimillion-rand budget, then consulting with local government and the community about their needs, and building and handing over a desperately needed new school or clinic.

YOUR FOCUS HAS BECOME OIL AND GAS, CAN THAT BE EXCITING TOO?

Absolutely. I worked on the R1.2-billion Project Ikhwezi, part of PetroSA's plan to secure additional reserves for its Mossel Bay gas-to-liquids refinery. I provided offshore construction management and project management, overseeing contractors for the subsea pipeline installation and structures fabrication and installation.

Now, with ROMPCO (the Republic of Mozambique Pipeline Investments Company), I've been seconded to Sasol Gas, where I provide project management and technical support for operations and maintenance of the Mozambique pipeline – servicing 864km of pipe running from Mozambique to Secunda. I assist the operations team to ensure regulatory compliance.

I'm currently working on a gas-to-power project, which is interesting because with the endless load shedding in our country, this project is an opportunity to add value to the economy. Also, natural gas is a cleaner energy source option – it's eco-friendlier and runs more efficiently than other fuels.

HAS BEING A WOMAN BEEN A PROBLEM IN A PREDOMINANTLY MALE FIELD?

The first two years were challenging, but once you achieve seniority and earn respect and trust, it's much better. Some male professionals still undervalue women's contributions, but I believe being female can have advantages in engineering. Women tend to prioritise safety in their homes and communities and transfer these values to the workplace. We also often pay more attention to detail, which is vital in identifying safety concerns.

However, it's important to challenge the status quo head-on when there's discrimination. Fortunately, ROMPCO encourages everyone to contribute ideas and makes every effort to maximise opportunities for connection, communication and cultural celebrations. It also has a mentorship programme.

Being assigned a senior mentor who can give guidance, positive criticism and feedback is invaluable for growth, and, in turn, I'll be mentoring students and junior professionals – giving them an opportunity I wish I'd had in university and when entering the workplace.

DEBBIE GOVENDER

Govender is a professional engineer and project manager with a master's in civil engineering. She spent 11 years at parastatal Transnet Freight Rail, working in geotechnical engineering, railway design and project and programme management, before moving to the private sector and joining American multinational infrastructure consulting firm AECOM as senior engineer: railways civils design.

"I'M PASSIONATE ABOUT PROBLEM-SOLVING AND ENGINEERING CENTRES ON THAT." – DEBBIE GOVENDER



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WHY CHOOSE THE ENGINEERING CAREER TRACK?

I was one of five girls involved in a "Girls in STEM" project at high school – three of us became engineers. These initiatives help girls see themselves as engineers in the future! I'm passionate about problem-solving and engineering centres on that. Every problem and project is different and the skills you learn (such as adaptability, flexibility, communication and negotiation) can be applied to grow your career and personal life.

HOW AND WHY DID YOU FOCUS ON RAILWAYS?

I was fortunate enough to get a bursary from Transnet. I wanted to do something that makes a difference in the lives of ordinary people and contributes to the quality of life and economic development of the country. The importance of the rail system in South Africa is underpinned by people's need for a cost-effective way to move around the country – sadly, that's been compromised in recent years.

WHY THE MOVE TO A MULTINATIONAL?

After 11 years with the parastatal, I wanted exposure to international projects, AECOM's forte. I wanted to learn how things work in other parts of the world, and it's good to find that we can apply our local skills and expertise there and bring back what we learn there to improve conditions at home.

I've been involved in the Neom Project in Saudi Arabia – a huge high-speed railway development (the Line) to link Neom's industrial hub with a 170km-long futuristic city that will accommodate nine million people. Neom is one of the kingdom's key giga-projects, it's being designed as a blueprint for sustainable urban living, and the Line won't have conventional roads or cars.

WHERE DO YOU THINK THE GREATEST PROGRESS IS BEING MADE IN YOUR FIELD?

There's been a change of mindset from a traditional focus on the bottom line, pushing for the most cost-effective designs, to greater consideration for the people factor and the environment.

WHAT OF PROGRESS IN GENDER EQUITY?

It's coming, but a bit slowly. I've encountered little discrimination from my generation (I'm 34), and I find that if you treat everyone with equal respect, you generally get it.

YOUR ADVICE TO YOUNG WOMEN WANTING TO PURSUE OR PROGRESS IN A CAREER IN YOUR FIELD?

Choose a career that excites you to get out of bed each morning. Working in engineering, particularly in South Africa, you feel that you're

making a difference in people's lives and making it a better place for all to live in. Engineering is challenging, but so interesting, which makes for a great career path.

DANIELLE POTGIETER

Potgieter is an environmental geotechnologist in the mining industry. She followed an honours degree in environmental monitoring and modelling with short courses from the South African Institute for Engineering and Environmental Geologists.

WHAT LED YOU TO THIS FIELD?

I was strong in STEM subjects at school and thought I'd do industrial engineering, but after exploring it, I knew it wasn't for me. When I discovered geology, I knew I had the perfect fit. Before settling in Pretoria, I grew up on a farm near Brits in North West. I was a tomboy and loved the idea of working outdoors and with the earth, solving practical problems.

After graduation, I worked as an environmental consultant. In 2021, I landed a great job as geotechnical project co-ordinator with Rosond – one of South Africa's leading drilling companies, active in underground drilling and grouting, surface exploration and geotechnical engineering.

I've recently been busy at a platinum mine where water ingress is affecting a chairlift, used to move miners and other personnel between different levels of the mine below the surface at a steep angle.

WHAT ABOUT PROBLEMS AS A WOMAN OF 30 IN WHAT'S LONG BEEN A MALE INDUSTRY?

At Rosond, an increasing number of women work alongside men on drill sites, in the workshop and at the head office. I surround myself with supportive colleagues, whatever their gender, and everyone wants the best for the company to move forward.

YOUR ADVICE TO YOUNG WOMEN CONTEMPLATING ENTERING THE FIELD?

Always remain informed and updated on the industry. Seek out mentors (try to have more than one), but remember, your path is unique – it's not your mentor's path. Nurture your individuality and seek allies who'll support you. If you struggle, join an organisation such as Women In Mining South Africa, which promotes women's empowerment and offers networking opportunities and leadership development. Lastly, don't take your work problems home: set priorities and boundaries. ■



"I SURROUND MYSELF WITH SUPPORTIVE COLLEAGUES, WHATEVER THEIR GENDER."

– DANIELLE POTGIETER

DID YOU KNOW?

- Globally, women make up 50 per cent of the population, but only 20 per cent of the professional engineering workforce (Gitnux Market Data 2023).
- In South Africa, just 13 per cent of science, technology, engineering and mathematics (STEM) graduates and 7 per cent of engineers, are women, reports *Engineering News*.
- Women continue to earn significantly less than men, keeping young women from entering the field, and contributing to the under-representation of female engineers in leadership positions, notes the Engineering Council of South Africa (ECSA). Women represent 23 per cent of candidate engineers (engineers in training) and only 5 per cent of candidate-certified engineers.
- The number of women registered by the ECSA is increasing year on year, as is representation of women on the council itself.