



# engineering positive change

2023 Annual Review



**SMEC simplifies the complex. We unlock the potential of our people to look at infrastructure differently, creating better outcomes for the future.**



**engineering  
positive  
change**



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01

welcome

## Interview with Hari Poologasundram

Reflecting on the journey of our organisation over the past year fills me with immense pride and gratitude. Together, we have embraced transformation, emerging stronger and more resilient and with a greater opportunity for growth and positive impact than we have seen before.

Throughout 2023, our business, as a part of the Surbana Jurong Group and alongside our ten sister companies, underwent significant restructuring, consolidating our strengths and resources. Forming a cohesive and powerful unit with a core focus on Infrastructure and Energy, this transformation allows us to harness the collective expertise and capabilities of our global reach, technical excellence, and diverse teams, enabling us to deliver exceptional results for our clients and communities worldwide.

At the heart of our success lies our unwavering commitment to investing in our people. Our peoples' dedication, skill and talent, passion, and resilience have been the driving force behind our achievements, and I extend my deepest gratitude to our teams for their tireless efforts and dedication to excellence.

We take pride in our SMEC brand, now with a seventy-five year history, and embrace our organisational purpose of "Real Impact, Made Together". Our purpose expresses our shared commitment across the Surbana Jurong Group to create meaningful, tangible, and enduring change, which we will only achieve through genuinely collaborative efforts with clients, partners, and communities. We look toward the future with great anticipation and optimism. The opportunities for growth are vast, and we are well-positioned to seize them. By embracing sustainability and technology as our guiding principles, we are poised to lead our industry into a new era of innovation and progress.

Looking ahead, we remain steadfast in our commitment to fostering a workplace culture where every individual feels a sense of belonging and empowered to reach their fullest potential. Together, we will continue to uphold the values and legacy that define us, while charting a course towards a brighter and more prosperous future.

I am truly excited about the journey that lies ahead, and I am confident that, together, we will achieve even greater heights of success and excellence.

**Hari Poologasundram**

Chief Executive, Infrastructure & Energy, SJ Group





# 02

our organisation







# A diverse collective of problem solvers for the built environment

The SJ Group is a diverse collective of problem solvers for the built environment, we refine and transform cities into sustainable, liveable spaces and uplift the human experience. Owned by global investment company Temasek, our unique portfolio of companies fuel our capabilities in building a smart and sustainable future.

Headquartered in Singapore, the group has a global talent pool of 16,000 in Surbana Jurong and its member companies AETOS, Atelier Ten, B+H, CHIL, KTP, Prostruct, Robert Bird Group, SAA and SMEC, based in more than 120 offices in 40+ countries. They include architects, designers, planners, engineers, facilities managers and other specialists driven by progressive thinking and creative ideas to shape a better future.

Our technical experts deliver sustainable solutions that cover the entire project life cycle from planning and design, through to delivery and management, as well as a full suite of multidisciplinary consultancy services across a diverse range of sectors including transportation, water, energy and renewables, aviation, healthcare and hospitality.

120+  
offices

40+  
countries

16,000  
employees



Real impact,  
made together.

SURBANA  
JURONG

smec

AETOS

B+H

CHIL  
INTERIOR DESIGN

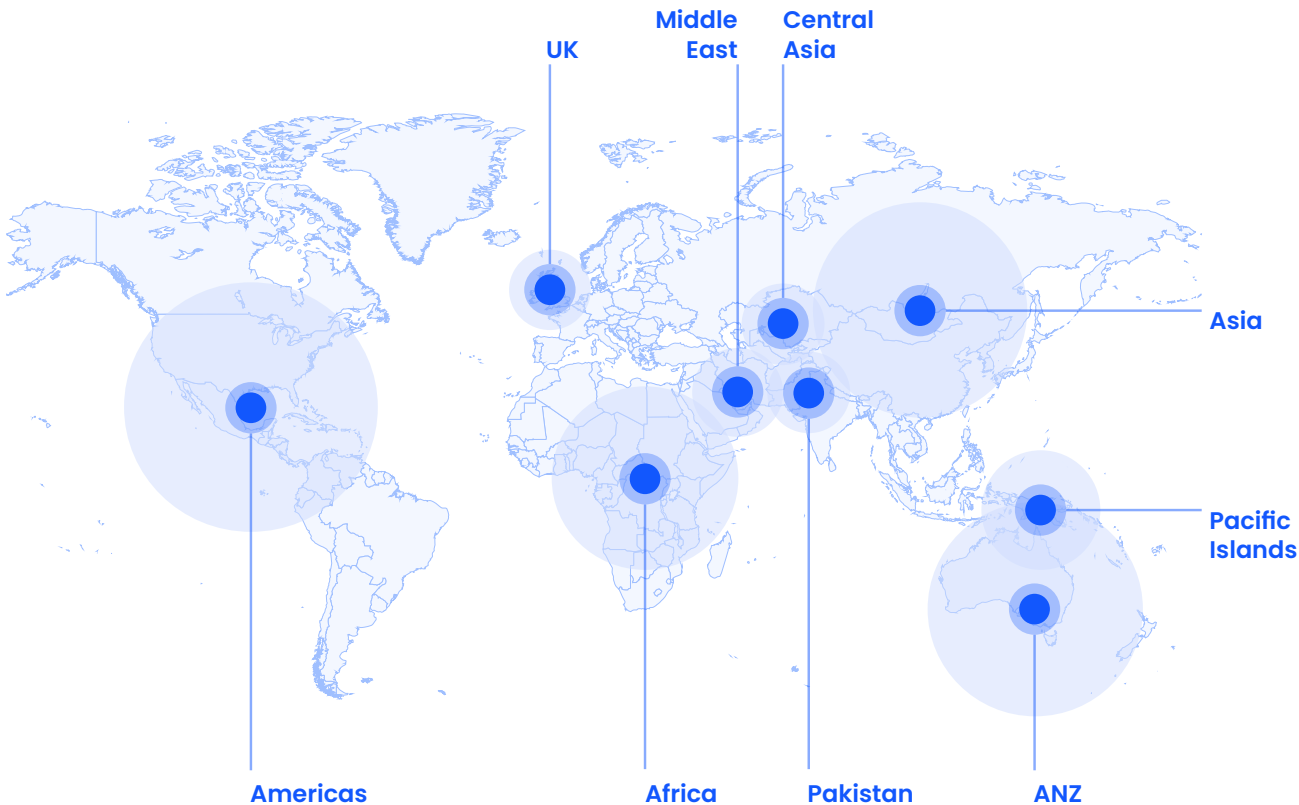
K T P

Robert Bird Group

SAA

PROSTRUCT  
CONSULTING

atelier ten



## ANZ

Australia  
New Zealand

## Americas, Europe and Central Asia (AECA)

Canada  
Chile  
Georgia  
Kazakhstan  
Tajikistan  
United Kingdom  
USA  
Uzbekistan

## ASIA and Pacific Islands

Bangladesh  
Brunei  
China  
Fiji  
India  
Indonesia  
Malaysia  
Myanmar  
Nepal  
Papua New Guinea  
Philippines  
Singapore  
Sri Lanka  
Solomon Islands  
Thailand  
Vietnam

## Africa, Middle East and Pakistan (AMEP)

Ethiopia  
Ghana  
Kenya  
Kuwait  
Malawi  
Namibia  
Pakistan  
Rwanda  
Saudi Arabia  
South Africa  
Tanzania  
Uganda  
UAE  
Zambia



**SMEC simplifies the complex. We unlock the potential of our people to look at infrastructure differently, creating better outcomes for the future.**

SMEC is committed to positively impact the people, the environment and the clients and communities we serve.

Our origins date back to the iconic Snowy Mountains Hydroelectric Scheme, one of the engineering wonders of the world, and for the last 75 years we have built a reputation as a trusted partner on major transport and energy infrastructure projects around the world.

Today our specialist teams draw on deep expertise and systems thinking to simplify the complex and deliver integrated engineering solutions across a range of diverse environments, from some of the world's most remote locations to some of the densest urban surroundings.

By combining the latest digital technology with critical thinking, we deliver best-practice solutions customised to each project's unique requirements.



**We are driven by our purpose and guided by our values**

**Our Purpose**  
Real impact,  
made together.

*“Real impact, made together”* conveys our role as a pragmatic partner committed to creating measurable and meaningful change in the world. We are a collective of problem solvers, motivated and inspired by the real outcomes we achieve through our work.

**Our Values**

**Integrity:** We act responsibly and conduct our business and ourselves with the highest ethical standards, accountability, and transparency.

**Partnership:** We build trusted and enduring relationships with clients, colleagues, and partners to achieve shared success.

**People:** We value our global and diverse talent by creating a safe, inclusive, and supportive environment where our people can thrive.

**Professionalism:** We act in the best interest of our clients and the communities in which we work, delivering innovative solutions to the highest of standards.



# People are at the heart of everything we do

We invest in people. By getting to know and understand our people, clients and communities we collaboratively harness our strengths to unlock the greatest potential in everything we do.



## We focus on the foundations

We're invested in setting our people up to succeed. Delivering exceptional outcomes starts with having exceptional people and we are committed to nurturing talent and supporting personal and career development.

A solid technical foundation provides the base from which our people then stretch, discover and innovate to ensure deep personal and career satisfaction through multiple career pathway options, development programs, mentorships and sponsorships, external training, community engagement and global mobility.

We have a variety of programs across the globe that encourage and support our people to thrive in their time with SMEC:

### Cultivate – SMEC's Female Sponsorship Program

The Cultivate program launched in 2019, with the goal of supporting the development of the talented women at SMEC and accelerating them into next level leadership positions.

Run through an external provider called Cultivate Sponsorship, the program is used across many industries to create a formal internal structure that nurtures female talent and careers. It is the only sponsorship program in Australia that is based on research to create cultural change within an organisation.

The program pairs high-performing employees with executive level sponsors, who work together over a six-month period to assess new opportunities, share knowledge and learnings, and establish stronger relationships that will contribute to advancing these women's careers.

We've seen exceptional success through Cultivate, with many of our alumni moving into senior positions across our organisation.

## Ideas Ignite Innovation – Our Research and Development program

In 2022 SMEC Australia launched our INNOVATE fund, a program which invites abstract submissions from any employee across the business for the Research and Development Committee to review. Each year the committee selects a number of initiatives to receive funding and support to help make the ideas a reality.

“

Through investing in people's time, and allowing space for innovation, research, software development, and technology we are supporting our employees and bringing some of our best ideas to life – this is how we shape our future”.

— Dr Richard Kelly, Technical Excellence General Manager

## Designing Lining of Hydropower Pressure Shafts

**Research lead: Mahdi Zoorabadi, Technical Principal – Geotechnics and Tunnels**

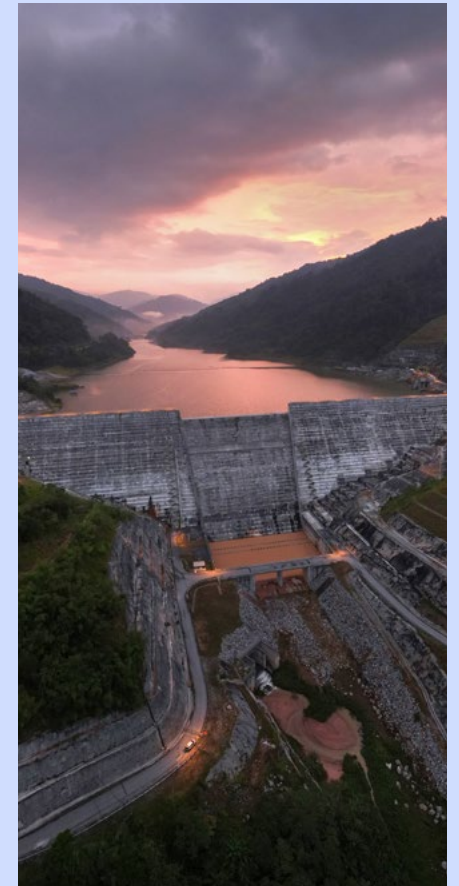
Mahdi has 22 years of experience in consultancy and research in a broad range of tunnelling and rock engineering fields. He has extensive experience in preliminary and secondary ground support design for underground structures through empirical and numerical modelling techniques, optioning and design of pressure tunnels, field rock testing, rock stress measurement, groundwater studies, monitoring, and instrumentation.

### The Pitch

Pressure tunnels and shafts are often crucial components of hydropower and pumped storage projects, however, their design often lacks realistic modelling of tunnel lining and rock mass interaction, posing risks to construction and future operation. This project aims to develop a more realistic approach for analysing pressure tunnels and shafts, ensuring cost-effective and safer designs.

### Outcomes

The team have recently applied the results of their research and development in the structural review of a recent project, conducting a rapid assessment. The client requested a third party to conduct an independent assessment which confirmed the findings (results) from the team's rapid assessment. The research has also created project opportunities after recently winning a contract to inspect existing water tunnels.



## Concrete Cracking of Dams

**Research Lead: Francisco Lopez, Chief Technical Principal – Concrete Dams**

Francisco specialises in design and analysis of concrete dams (gravity, arch, arch-gravity, buttress and slab) and appurtenant structures for dams with emphasis in seismic and structural engineering.

### The Pitch

The project sought to enhance concrete dam analysis by integrating smear cracking models into Finite Element Analysis (FEA). Current industry limitations impede widespread adoption of this advanced approach, however, a callout was made during an ANCOLD conference to revise ANCOLD guidelines. Utilising analysis on earthquake-induced cracks in

concrete dams the R&D project aimed to adapt DIANA software for 3D seismic analysis, incorporating smear cracking modelling, crucial for assessing dam risks accurately.

### Outcomes

The team have been able to develop a reliable smear crack model for concrete dams, which they have been able to test accurately by reproducing the crack resulting from the 1967 earthquake at the base of the chimney section of Koyna Dam. [See simulation here.](#)

This research enabled a successful bid to strengthen an existing concrete dam in South-East Queensland.





## Hydrogen Methodology

**Research Lead: Jose Quizhpe Conde,**  
**Technical Principal – Power & Energy**

Jose specialises in Green Hydrogen System, Energy Transition, Renewable energy systems, Solar photovoltaics systems, Storage and Energy modelling. He is passionate about developing new techniques to improve the development, design, construction, and operation of renewable energy systems, including solar, energy storage, wind, and Hydrogen.

### The Pitch

The Green Hydrogen methodology represents a groundbreaking approach to designing and modelling complex systems integrating renewable energy sources for hydrogen production. It has been recognised there is a pressing need within the green hydrogen industry for a more sophisticated and holistic approach to system design. The Green Hydrogen Methodology is a comprehensive and interdisciplinary approach that addresses the challenges inherent in green hydrogen systems.

### Outcomes

The R&D work completed regarding a Green Hydrogen methodology and modelling tools is already in use for our first Australian Green Hydrogen project, which commenced in January 2024.

## CSIRO Digital Twin Early Adopter Program

**Research Lead: Eric Fremouw,**  
**Manager – Survey, Urban Communities**

Eric has over worked in the global engineering and construction sector for more than 30 years. He has extensive commercial and operational experience on medium to large-scale projects and companies. Engaged predominantly in large international civil construction projects, pivoting around marine he is responsible for delivering 3D survey, design and location/position data.

### The Pitch

The CSIRO Digital Twin Early Adopter Program (EAP) is a strategic initiative which offered organisations exclusive access to testing and refinement of the Terria Spatial Digital Twin platform – a cutting-edge

web-based software developed by the CSIRO. SMEC's participation in the EAP presented an opportunity to gain a competitive edge by leveraging the innovative spatial data visualisation and analysis tool, influencing its development to meet specific business needs, and aligning with broader digital innovation strategies.

### Outcomes

The team successfully completed the CSIRO Digital Twin Early Adopters program. The collaboration resulted in a comprehensive understanding of the platform's capabilities and what it can offer our projects and clients. The CSIRO is also enhancing the platform based on direct feedback from the team. The platform has already been included in some proposals, one of which is dealing with the circular economy by a local government.



# We're invested in the future

At SMEC, we are committed to creating a workplace and community where people will thrive. We are so proud of the brilliant minds we have at SMEC and are committed to ensuring everyone has the best access and support to learn, grow and excel in their roles.

## Graduate programs

### ADAPT

ADAPT is a bespoke graduate development program. Launched in India and now being rolled out across the Middle East, ADAPT is focused on curating digital leaders of the future. It is a region-wide initiative to identify and enable talents with all-round training and mentoring to deliver engineering-design solutions leveraging digital technology. The program envisions creating a new cohort of technologists who will continuously adapt to the ever-evolving digital landscape.

### ANZ Graduate

#### Development Program

SMEC's ANZ Graduate Development Program, allows graduates to gain on-the-job experience and learn new skills through a two-year program. Graduates are mentored by industry experts, gain exposure to groundbreaking projects, and work with our diverse and energetic teams.

### Next Gen Program

Bangladesh's "Next Gen" Graduate Engineers Program nurtures graduates through an extensive one-year program inclusive of assignments on a variety of projects while also providing skill enhancement training.



— Tahir Sidique,  
Graduate Technologist

“

*The mentorship opportunities extended to me have proven invaluable in easing my transition from academia to the professional realm. I am deeply appreciative of the exposure to various fields within ADAPT, which has significantly widened my outlook and equipped me for upcoming challenges. It fills me with pride to be associated with a company that completed the growth of its employees and cultivates a culture of excellence.”*



— Varsahe Manivasakan,  
Graduate Engineer

“

*The Graduate Program has provided me the chance to meet and network with other graduates from SMEC across all discipline streams. As well as the learning opportunities presented through mentoring programs. This program has allowed for a smoother transition from the undergraduate life to the graduate life, giving more of an insight to what the future holds.”*



— Mohammed A. Bakhsh,  
Civil Engineer

“

*Having the privilege of participating in the inaugural KSA-ADAPT program has equipped me with valuable skills that extend far beyond the scope of my daily work routine. The program effectively enhanced my abilities in communication, time management, and project management. The guidance provided was instrumental in empowering our entire cohort to effectively manage work conflicts and confidently advocate for ourselves in technical and soft skill-related matters.”*





# Diversity is our strength

Founded in diversity, and now a part of a global organisation of 16,000 employees across 40+ countries, SMEC harnesses diversity of thought, experience and expertise driven by a common purpose. We are guided and supported by our globally integrated People and Culture Team, who diligently support our key business objective to deliver an exceptional employee experience for every individual.

## Equality, Diversity, Inclusion and Belonging

We are committed to creating a rewarding, inclusive workplace for our people by fostering equal opportunities, creating a true sense of belonging for employees, training our managers on unconscious bias, and ensuring employee health, physical safety, psychological safety and wellbeing.

### A framework for success

We have an unwavering commitment to EDIB as we continue to strive to achieve an environment where every individual feels valued, respected, and empowered to contribute their best.

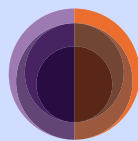
In addition, we ensure our policies and procedures allow a space for an EDIB focused culture to be actively practiced. In our ANZ region for example, we have a Floating Public Holiday policy allowing employees to celebrate days of cultural significance to them, and we have extended our Shared Care parental leave model, which now offers paid parental leave of 18 weeks to all employees regardless of gender and whether they are a primary or secondary carer.

We have both a global and localised approach to building a collective culture of Equality, Inclusion, Diversity and Belonging. Cultural and religious days of significance are shared widely across our global employee base to further encourage inclusion and diversity, and where possible we include employee stories and experiences to help raise awareness and education about our different cultures across the group. On a regional level, we host regular employee engagement activities including guest speakers, morning teas, fitness activities, celebrations specific to local cultures and opportunities to be involved in wider global initiatives such as International Women's Day.

We are proud to have a vast range of employee driven committees and groups across our organisation, allowing all employees to have a voice in an area that may be of particular interest to them and the opportunity to influence our organisations behaviours, policies and engagement around EDIB.



CSR Committees in all regions



Reconciliation Action



Plan Committee Inclusion and Diversity



Mental Health Awareness Group



SACA- Women Leadership Program



### Parental Leave at SMEC

SMEC is committed to supporting all employees with parental responsibilities and providing an inclusive workplace for those who have parental responsibilities prior, during and following a period of Parental Leave. SMEC supports an inclusive and diverse workplace with equal access for all employees.

#### An Australian case study: Alexander Estephen, Senior Civil Engineer – Urban Communities, Parramatta

Alexander took 14 weeks of primary carers leave when his son was born, with a clear purpose to be an integral part of his new child's life. Not only was he looking forward to watching his son grow and develop, he was motivated to enable his wife the ability to return to work whilst giving her the comfort that he was at home.

“

*The major benefit is the ability for both parents to spend time caring and looking after their child. It also enables both parents more flexibility with work choices and career roles. My manager encouraged me by acknowledging that this type of leave has not always been around and that it is a great initiative.”*

— Alexander Estephen, Senior Civil Engineer, Urban Communities, Parramatta

“

*Implementing a shared care model for paid parental leave fosters equal access and flexibility of how parental leave is accessed for parents of all genders. The addition of Foster Carers leave into our leave entitlements also supports our employees who provide essential care and support to children up to the age of 18. I'm encouraged to see the uptake of these benefits, reaffirming our commitment to prioritising the well-being and diversity of our workforce. This isn't just about benefits; it's about making a tangible difference in society. By embracing these progressive policies, we're not only prioritising the well-being and diversity of our workforce, but we're also contributing to a more inclusive and supportive environment for families everywhere.”*

— Karen Quinlan, I+E Global Lead, People and Culture



## Committed to exceptional partnerships and client service

As a member of the SJ Group we are a multidisciplinary consultancy with a globally connected workforce of local specialists, allowing us to truly understand client needs to deliver sensitive, tailored and community-minded outcomes. Our commitment to client service is paramount to our success. Serving a dynamic and diverse client base, we strive to provide responsive, proactive, and innovative solutions to meet their goals.

### Local people, global expertise

Through our network of global specialists and by collaborating with local partners, we connect our clients with the best teams and capabilities to deliver highly innovative and sustainable solutions.



Munda Airport Project, Solomon Islands

### SMEC proudly participated in the inauguration of the new Munda International Airport Terminal in the Solomon Islands

The newly upgraded Munda airport is now fully capable of handling Boeing 737 and Airbus A320 aircraft, facilitating international flights and significantly enhancing the regional aviation sector. This transformation is part of the Solomon Islands Roads and Aviation Project (SIRAP), an initiative focused on improving aviation infrastructure and road networks in the region. SIRAP is funded by the World Bank under the Pacific Aviation Investment Program (PAIP), aiming to enhance aviation safety, efficiency, security, environmental sustainability, and harmonisation of aviation safety standards across the region.

SMEC played a pivotal role in the project, providing comprehensive construction management services which enabled it to oversee and ensure the successful completion of the terminal. [Click here to read more about this project](#)

“

*The inauguration of the new Munda International Airport marks a new chapter in aviation for the Solomon Islands. SMEC takes pride in its substantial contribution to this success. Our partnership in the SIRAP project showcases our commitment to fostering growth, improving safety, and increasing connectivity in the Pacific region.”*

— **Zahid Iqbal**, SMEC Regional Manager, Pacific



Jabodebek Light Rapid Transit (LRT), Indonesia

### Driving progress through innovation and connectivity

SMEC, as part of the Oriental Consultants team, provided supervision consultancy for the Jabodebek LRT project, ensuring high standards and innovative engineering solutions. Notable achievements include implementing Grade of Automation Level 3 for train control and utilising U-Shape Girders for viaduct construction, optimising space and seismic resilience. The project, initiated in September 2015, exemplifies Indonesia’s infrastructure advancement, promising to transport 500,000 passengers daily, with 31 trains capable of carrying 1,300 passengers each. The LRT links central Jakarta with Depok and Bekasi, enhancing regional connectivity and fostering sustainable transportation. [Click here to read more about this project](#)

“

*The Jabodebek LRT is a testament to the power of partnership and collaboration. The Indonesian government worked together with global experts Oriental Consultants and SMEC, as well as other partners, to create a project that is both safe and efficient. Our collaborative culture helped us to identify and mitigate risks, ensuring that the project will be a success for years to come.”*

— **Habibie Razak**, SMEC Regional Director, Energy, Indonesia



# Partnerships are powerful

The greatest outcomes are achieved when parties collaborate openly, honestly and professionally. We forge meaningful relationships with our clients, partners and communities and together unlock a greater potential working as a united team.

We prioritise open communication, collaboration, and transparency throughout the entire project lifecycle to ensure that our clients are informed and involved every step of the way. We also advocate for sustainable outcomes, delivering solutions that benefit our clients, the community and the environment.

## Murray Basin Rail Project, Australia

### Delivering freight upgrades to support agricultural community

The Murray Basin region continues to be a key producer of agricultural feed, consumer food and building products. A reliable freight network with increased capacity is essential to move produce such as grain, fruit, vegetables, mineral sands and wine, which all rely heavily on transportation via road and rail.

The Murray Basin Rail Project (MBRP) aims to deliver key benefits for primary producers and freight operators on the existing rail network, including increased capacity, improved network reliability and resilience, and reduced journey times, without further gauge standardisation. SMEC, together with MBRP Alliance partners Acciona Rail, Rail Projects Victoria and V/Line, are currently working on a range of track and signalling upgrades between Ararat and Maryborough to reduce the journey times, create more freight paths and increase axle load limits from 19 TAL to 21 TAL.

SMEC's designer role as part of the MBRP Alliance was focussed on delivering all non-signalling designs on the project. This mainly included designs for the track and civil (including track drainage), combined services route (CSR) and structural designs.

On completion, the MBRP will alleviate road congestion and provide major benefit to local produces and regional economy. The increase in freight paths will see capacity improvements, network reliability all without further gauge standardisation. [Click here to read more about this project](#)



“

*SMEC is working collaboratively with our Alliance partners to deliver designs that are safe, sustainable and represent high quality.”*

— Nilesch Patil,  
Design Manager



## Ha Mpiti to Sehlabathebe Road, Lesotho

### Improving connectivity for local communities and boosting economic growth

The Ha Mpiti to Sehlabathebe road project in Lesotho aims to enhance connectivity for local communities and boost tourism in Sehlabathebe National Park. The challenging mountainous terrain and varying climates demanded careful pavement design to withstand freeze-thaw cycles. SMEC managed the project from feasibility studies to construction, fostering employment opportunities for Lesotho nationals. The upgraded 91 km road provides all-weather access for 12 villages to Qachas Nek, the main town in the district to the capital city, Maseru, facilitating economic and social connectivity. Moreover, it promotes tourism in Sehlabathebe National Park and contributes to a strategic ring-road along Lesotho's border with South Africa. [Click here to read more about this project](#)







We're fortunate to have the opportunity to positively impact the communities we work in



SMEC Foundation

Established in 2001, the SMEC Foundation is committed to community development and sustainable poverty reduction. Its core mission extends small-scale grant support to development projects within the communities in which we operate. Collaborating closely with locally based SMEC teams, the Foundation actively engages with charity partners and SMEC Alumni partners to implement projects that resonate with the community's needs. This collaborative approach not only ensures the effective utilisation of resources but also consistently delivers outstanding outcomes that positively impact the communities served.

The SMEC Foundation has three overarching objectives:

**Connect:** Connect communities with people and resources to help deliver projects in the areas of health, education, environment, emergency relief, and community development.

**Uplift:** Create partnerships with non-government organisations and local groups to uplift communities by addressing poverty, social disadvantage, and environmental protection.

**Contribute:** Provide small-scale grant assistance to community groups to carry out projects in countries in which SMEC has a presence.

The Foundation's commitment to people is evident in its various initiatives aimed at improving access to education, better healthcare, improved infrastructure, and environmental awareness. The Foundation's unwavering dedication to these vital aspects of our society has been truly commendable. Through tireless efforts over the last 22 years, the Foundation has positively impacted countless lives, fostering a sense of empowerment and inclusivity among individuals and communities.

During 2023, the SMEC Foundation commenced 12 additional projects across eight countries. This equates to 3,000 students across 42 schools, 445 patients, 30 villages, and more than 11,500 people in the community who will benefit from the outcomes of these initiatives.

[Read more about SMEC Foundation](#)

[Find out more in the 2023 SMEC Foundation Report](#)

Divisional CSR Committees

The Divisional CSR Committees operate in collaboration with the SMEC Foundation, overseeing charitable activities. These committees focus on ensuring impactful programs within operating divisions, encouraging ownership and engagement by SMEC employees. Additionally, some SMEC CSR projects receive support from the SMEC Foundation, which collaborates with trusted charity partners with a local presence.

SMEC's CSR program demonstrates our commitment to ethical conduct, sustainability, and the well-being of both local and global communities. The CSR framework centres on People, Community,

Sustainability, and Environment, underscoring our mission of creating and connecting communities for future generations to thrive. Our focus across these pillars has resulted in significant positive impacts and a more sustainable future for all.

During 2023, the Divisional CSR Committees carried out 20 CSR projects, emergency relief, and fundraising efforts, partnering with 27 organisations. This included planting 940 trees, supporting seven schools, and positively impacting more than 1,000 households through health, education and community development.







# Shaping a future of socially sustainable transport with community well-being at its heart

The integration of community engagement and social value considerations in transport planning leads to more holistic and effective solutions, creating a future where transport networks are not only environmentally sustainable but also enhance the well-being of our communities.

We spoke with Dr Richard Parsons (Technical Principal for Social Value and Engagement) and Alyse Phillips (Team Leader for Communications and Stakeholder Engagement, ANZ) on the role and importance of effective community engagement and social value in delivering sustainable transport networks and what they think the future holds for socially sustainable transport in a ‘Modern Australia’.

## Describe the role and importance of effective community engagement and social value in delivering sustainable and efficient transport networks?

Transport exists for people – to help us get around, whether for work, leisure, visiting family, or for other purposes. Good transport networks can significantly enhance our quality of life and wellbeing – building social value as well as economic value. As transport users, we all know how frustrating and stressful it can be when transport lets us down, or conversely how beneficial it is when transport works well.

So, to truly understand what differentiates a sustainable and efficient transport network from an unsustainable and inefficient

one, we need to integrate people’s lived experience of transport systems and alternatives. And to truly understand lived experience, we need to empower people and communities to engage in dialogue on their visions, needs, and local insights on how transport can work best for them. This is the role and importance of meaningful community engagement.

## What are the potential risks of neglecting community engagement and social value considerations in transport planning, and how can these risks be mitigated to ensure the long-term success and of sustainable transport networks?

Local communities are the users of their transport systems. They might not have specialist technical knowledge about road or rail

construction, but they know what works for them and what doesn’t work. If we ignore these insights, we risk overlooking critical information to help us design systems that work for people and build social value. We also risk alienating communities from the decision-making process, which has been shown to erode broader trust in government and the planning system. We saw these kinds of challenges with the Sydney CBD and South-East Light Rail, for example, where small businesses and neighbouring residents felt their views, concerns, and livelihoods were ignored during the long construction phase. We know we can do better.

Thankfully, we can reduce this risk simply by adopting a more participatory approach to

transport planning and prioritising early community engagement. In practice, this means a process where technical specialists and local communities work together, combining different forms of knowledge to achieve the best outcomes. Sometimes this can be hard, especially if people initially seem to have different goals and use different terminology. The key is to find common goals towards which we can collaboratively design outcomes. At the same time, conversations between these different types of ‘expert’ naturally builds mutual respect for each other’s form of knowledge.

By prioritising community engagement and social value considerations, we can not only reduce risk but also build public support and create sustainable networks and solutions that benefit the community and environment in the long term.

## What do you think the future holds for socially sustainable transport and what does ‘Modern Australia’ look like to you?

We expect to see communities, at least in urban areas, increasingly rejecting the dominance of roads and embracing pedestrian and bicycle-friendly neighbourhoods, in turn supporting better public health outcomes. We know that bitumen and concrete increase ambient temperatures, making daily life ever more uncomfortable as the planet heats. This disproportionately affects our most vulnerable communities. Private cars also disconnect us from each other, diminishing community cohesion. We’ve all seen how people can behave differently – literally ‘anti-socially’ – when ensconced in the apparent solitude of their own vehicles. Socially sustainable transport is consistent with environmentally sustainable transport – it means fewer short

car journeys, more car sharing, and replacement of private transport with public transport. It also incorporates universal design principles to enable people of all ages, abilities, and social groupings to access transport options that work for them.

Envisioning the future of transport in Australia also offers us a unique opportunity to embrace our cultural strengths. We have multicultural communities that can bring different ideas and perspectives on what works at local, state and territory, and national levels. Most importantly, though, we have First Nations perspectives that for too long have been ignored, yet which can provide uniquely tailored solutions for sustainable transportation across our beautiful landscapes.

## About the Authors



**Dr Richard Parsons**, Technical Principal – Social Value and Engagement

Richard is recognised internationally as a leader in social impact assessment (SIA), social licence, and community engagement, and has worked on over 100 projects in multiple sectors, including energy, mining, transport, and infrastructure. His focus is on optimising social and cultural outcomes from projects, designing for distributive equity, and ensuring procedural fairness in SIA and engagement.

From 2016–22, he led the technical development of policy and practice for SIA and social impact management for New South Wales (NSW) Department of Planning and Environment. He also writes extensively for professional and academic publications, and actively participates in industry events.

### Connect with Richard



**Alyse Phillips**, Team Leader – Communications and Stakeholder Management

Alyse has nearly 12 years’ experience providing strategic communication and engagement advice and services to clients such as Transport for NSW, WaterNSW, NSW Department of Planning and Environment, Sydney Trains, Australian Rail Track Corporation, Sydney Water and Department of Defence.

Alyse prides herself in her ability to tailor communication and engagement strategies and plans to suit specific projects and objectives.

Alyse was fortunate to be a participant in the in the 2023 cohort of the Cultivate Sponsorship Program at SMEC, a program supporting advancing high-performing women’s careers through providing executive level mentorship, access to new opportunities, knowledge sharing and learnings.

### Connect with Alyse



# We're proud of our achievements in 2023

Receiving industry acclaim for our work is always an honour, and we're delighted to highlight the awards earned in 2023. These accolades highlight our technical achievements and unwavering dedication to the clients, partners and communities we serve. They stand as a testament to the diligence and expertise of our talented team, whose hard work is reflected in these achievements.

## Association of Land Development Engineers VIC (ALDE)

Winner | Best Large Consultancy

## Association of Land Development Engineers VIC (ALDE)

Winner | Future Leader — Nathaniel Freeman

## Australian Tunnelling Society (ATS)

Women in Tunnelling Achievement Award  
— Helen Baxter-Crawford

## CMO Awards

Asia's Women Leaders 2023 Recipient  
— Fatema Moriam Nisha, Bangladesh

## Concrete Institute of Australia, QLD

Winner | Excellence in Concrete – Technology & Innovation — Frenchman's Creek Bridge Upgrade

## Consulting Engineers South Africa (CESA)

Winner | Mentor of the Year — Herman Cronje

## Waste Innovation and Recycling (WIAR)

Winner | Workplace of the Year Award

## World HRD Congress

Winner | Global Best Employer Brands 2023 (Best HR Strategy in line with Business) — Bangladesh

## Sustainability Consulting Awards

Highly Commended: Creating Resilient and Sustainable Communities — Tonie Sap Poverty Reduction and Smallholder Development project

## Women in Industry

Finalist | Excellence in Engineering  
— Helen Baxter-Crawford

## Bentley Going Digital Awards in Infrastructure

Finalist | N4 Montrose Interchange

## Beaton Client Choice Award

Finalist | Best Built and Natural Environment Consulting Firm (>\$200m revenue)

## Consult Australia

Highly Commended | Future Leader  
— Madeline Harty

## Consult Australia

Finalist | Collaboration for Project Excellence — North South Corridor, joint submission with Department for Infrastructure and Transport (SA)

## Consult Australia

Finalist | Collaboration for Project Excellence — Northshore Brisbane, joint submission with Economic Development Queensland

## Consult Australia

Finalist | Champions of Change, Female Leadership  
— Sabrina Kost

## Consult Australia

Finalist | Future Leader  
— Chris Cathcart

## Consult Australia

Finalist | Innovative Design  
— Strategic Adelaide Model, joint submission with Department for Infrastructure and Transport

## Consult Australia

Finalist | Innovative Design — Design Lines

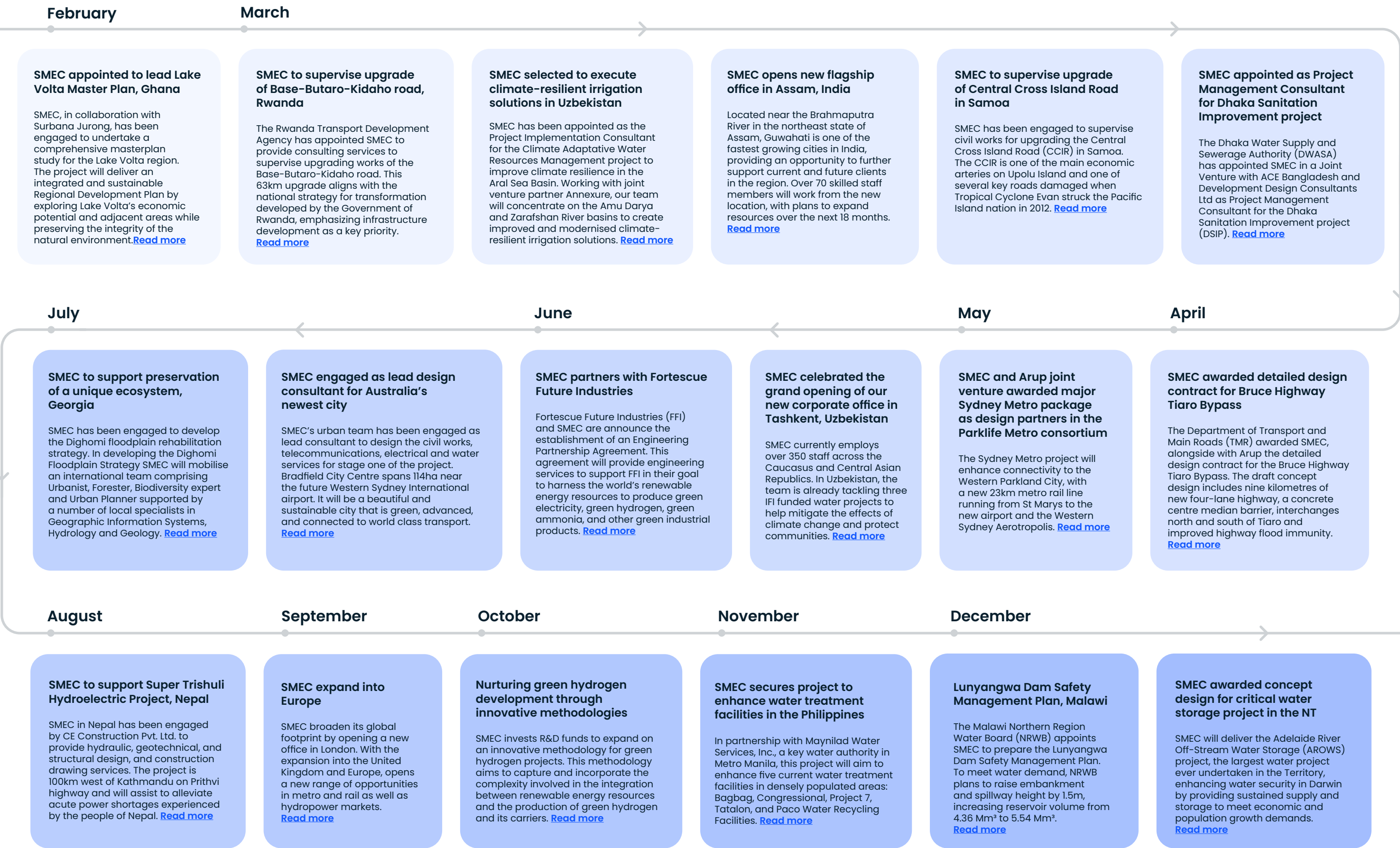


# 03

2023 timeline









# 04

## project highlights



Simplifying complexity

# Challenging boundaries to deliver sustainable solutions that help to connect, move and power people and communities

Through technical excellence and exceptional problem solving, we simplify the complex and provide tangible results for our clients, partners and communities.

We understand that infrastructure and community needs are constantly evolving, through the utilisation of emerging technologies, as well as exceptional people talent, we are able to design and deliver solutions that are tailored to each project's specific need while also being scalable and adaptable, meaning we're meeting the needs of today, as well as the many possible needs of the future.



Nowra Bridge, Australia





Transport

## Tailor-made solutions

By combining the latest digital technology with critical thinking, we deliver best-practice solutions customised to each project's unique requirements.

Image: Mount Lindesay Highway, Australia



Mtentu Bridge, Eastern Cape Province, South Africa

### Design of the highest and longest main span balance cantilever bridges in the world

The N2 Wild Coast Toll Road (N2WCTR) project, particularly the Mtentu Bridge, illustrates how infrastructure can spur socio-economic development while showcasing engineering innovation. Engineers overcame challenges such as supporting the bridge's weight and anticipated traffic loads, navigating environmental concerns, and optimising alignment for minimal impact. The final design features balanced-cantilever spans, accommodating traffic lanes, sidewalks, and withstanding seismic forces. Mtentu Bridge, standing at 223m and 1.13km long with a 260m

main span, promises to be among the world's longest. SMEC South Africa and HVA JV partners CH2M and Axis have been instrumental in its realisation. The bridge will facilitate access to the Wild Coast, boosting tourism and local business revenues. Additionally, it will enhance regional supply chain efficiency, reducing travel times and costs for goods transportation. In essence, the Mtentu Bridge epitomizes infrastructure's transformative potential in fostering economic growth and connectivity. [Read more](#)





Montrose Interchange, South Africa

Gaining an edge through embedded VR technology

Virtual reality (VR) has transcended its traditional domains and is now integral to engineering and infrastructure projects, offering benefits across the project lifecycle. By visualizing projects in 3D environments, engineers can identify and address flaws before implementation, potentially saving time and costs. A notable application is the Montrose Interchange project, crucial for connecting South Africa, Mozambique, and Botswana. The original design, inadequate for current traffic volumes, posed challenges due to constrained topography. Leveraging UAV drone photography and Bentley's ContextCapture software, the SMEC team developed a 3D reality mesh for conceptual design, facilitating confident decision-making. The use of VR enabled stakeholders to experience the completed project before construction began. This success has paved the way for VR's wider application in future projects, streamlining design processes and fostering collaboration across disciplines. The aim is to demonstrate that VR experiences should be standard practice, accessible for all projects, not just major ones.

[Read more](#)



Sydney Gateway, Australia

Supporting the growth of our communities, places and economy

SMEC and The APP Group are jointly overseeing the Independent Verifier role for Sydney Gateway, a transformative \$2.6 billion project by Transport for NSW. This initiative aims to connect Sydney Airport's terminals and WestConnex motorways, improving freight distribution, traffic flow, and supporting economic growth. The project includes constructing new access roads, bridges, overpasses, and link roads, with meticulous oversight ensuring quality, safety, and environmental sustainability. Currently, construction

progress stands at 60%, with significant milestones achieved such as installing bridge structures over Alexandra Canal and the ARTC rail corridor. The project's innovative aspects include Twin Arch Bridges featuring Australian indigenous designs and elevated viaducts enhancing transport connectivity. Despite its complexities, collaboration and precision are driving the project towards successful completion, promising lasting benefits for Sydney's transportation network and the community. [Read more](#)







**Burnley Tunnel, Australia**

**Digital solution lights the way for tunnel congestion**

Traffic flow issues in Melbourne’s Burnley Tunnel prompted Transurban to seek solutions. SMEC designed a dynamic pacemaker lighting system, using LED lights to regulate traffic speed and improve safety. The innovative lighting creates visual cues, guiding drivers smoothly through the tunnel and reducing congestion. SMEC employed VR simulations to assess design changes’ impact on driver behaviour, involving Transurban customers in testing trials. This approach added value by providing dynamic experiences of proposed solutions, aiding in informed decision-making. The project’s sustainable aspects include cost and carbon footprint reduction, achieved through minimal disruption during construction and improved traffic flow. This initiative exemplifies the benefits of creative engineering solutions in optimizing infrastructure and meeting evolving transportation needs amid urban expansion. [Read more](#)

**Zero Emissions Buses, Australia**

**Delivering transport infrastructure for the future**

Transport for NSW (TfNSW) aims to transition its bus fleet of over 8,000 vehicles to electric/hydrogen power by 2030, a vital step in decarbonizing the transport sector. SMEC and Mott McDonald, in a joint venture, are supporting this transition by providing design services and technical advisory to ensure a seamless shift to zero-emission buses. This initiative promises

numerous environmental, community, and economic benefits, including improved road safety, reduced noise pollution, and regional industry development opportunities. Together, they are proud to contribute to TfNSW’s goal of achieving a net-zero future for transportation in New South Wales. [Read more](#)







Mount Lindesay Highway, Australia

Delivering a reliable road network now and into the future

SMEC and HullISEE collaborated closely with the Queensland Department of Transport and Main Roads (TMR) to upgrade the Mount Lindesay Highway, enhancing safety and efficiency for motorists. The project involved expanding lanes, constructing new bridges, improving fauna connectivity, and implementing safety measures such as barriers. Strong stakeholder relationships were crucial for

project success. SMEC’s role as Contract Administrator facilitated technical management and commercial negotiations. The upgraded highway provides better access and safety for local communities, reducing congestion and travel times. Funded by the Federal and Queensland Governments, the project exemplifies effective collaboration and long-term community benefits. [Read more](#)



Chennai Metro, India

Key milestones achieved on the Chennai Metro Phase II project

As Detailed Design Consultant, SMEC, with JV partners MMSPA (Italy) and MMSB (Malaysia), achieved a milestone on July 20, 2023, by erecting the first full-span precast U girder at Adyar River for the Chennai Metro ECV02 Construction Contract Package. The task, completed in 45 minutes, showcases progress in using precast components for speed, quality, and safety enhancements. The U girders will reduce construction time and urban traffic disruption significantly. The project involves intricate features, including special spans and tall piers, navigating sharp turns. [Click here to read more about the CMRL Phase II, Corridor 5 project](#)

Additionally, Chennai Metro Rail Limited (CMRL) initiated the first drive of Tunnel Boring Machine “Flamingo” on September 1, 2023. SMEC, in collaboration with MMSPA (Italy) & One Works, serves as Detailed Design Consultant for Chennai Metro Rail Phase II Corridor 4’s design. Spanning 26.1 kilometers connecting Light House Station to Poonamallee Depot with eight underground and 18 elevated stations. Notable measures include dewatering wells and flood gate sensors for sea water rise mitigation. “Flamingo” will tunnel from Light House Station, aiming to reach Thirumayilai Station in a year. The expanding Chennai metro network is set to span 116.1km across three corridors upon completion. [Click here to read more about the CMRL Phase II, Corridor 4 project](#)





Thought Leadership | Edward Archer,  
Function Manager – Roads & Highways

## New frontiers in digital engineering

Leveraging the latest advances in digital engineering, SMEC South Africa continues to refine its virtual design capabilities to optimise the construction, maintenance, and asset management of transportation routes. IMIESA speaks to Edward Archer, function manager: Roads & Highways, about the key benefits for clients and contractors, citing their ongoing work for Trans African Concessions (TRAC) as a prime example.

The digital transition from the 2D to the 3D environment, along with the rapid pace of software development, is presenting a whole new range of opportunities for design engineers to add value through the modelling of captured and design data in ways that cannot be replicated by traditional printed drawings,” says Archer.

“The speed, accuracy and level of detail are revolutionary, enabling conceptual design development and design updates much more efficiently. Plus, with the use of virtual reality (VR), we can take clients, contractors and stakeholders into the 3D realm and walk, drive or fly them through actual site backdrops, incorporating all interrelated design elements so they can see what works and may not work best in practice.”

Within the transportation space, the bulk of SMEC’s projects are multidisciplinary in nature, encompassing areas that include traffic studies, geometric design, structures, pavements, geotechnic, stormwater, and street lighting.

As Archer points out, prior to digitalisation, coordinating and integrating this volume of multi-faceted information was a mammoth task. Today, however, all of that data is converted into a centralised digital model that continues to evolve as each project develops, which has been the case with SMEC’s involvement in various stages of the N4 Maputo Corridor development.

Key sections of this approximately 560 km route – stretching from Pretoria to Maputo – is managed by TRAC in conjunction with the South African National Roads

Agency Limited (SANRAL) and its Mozambican counterpart, Administração Nacional de Estradas (ANE).

One of SMEC’s recently completed TRAC projects is an extensive upgrade of an existing N4 two-lane carriageway to an undivided four-lane carriageway (16.4 m surface width) from east of the Crocodile River bridge (km-distance 0,180) to the Kaalrug/Magnesite mine (D1545) intersection. The length of the road is approximately 15.5 km, with the works completed in Q1 2022.

The detailed design for this project was developed in 2018 and at the time served as one of SMEC’s first major advances in the use of a 3D engineering model to identify all possible conflicts before commencing construction.

### Low-impact surveys

In the early stages of a project, there is often little time or money to conduct expensive, detailed surveys – especially when some of the options or concepts might not be implemented.

using low-cost survey techniques like unmanned aerial vehicle drone surveys coupled with traditional Lidar surveys to produce stunning visuals in record time.

Using a combination of Bentley’s ContextCapture and MicroStation applications, SMEC created reality meshes of several project sites. This was achieved in different ways depending on the source data – in some cases using photogrammetry and in other cases marrying together billions of Lidar points used to extract a ground terrain with high resolution aerial imagery to produce a similar result.

SMEC saw the objective of using these digital recreations of the real world being the best way to effectively communicate engineering designs in a real-world context.

### Digital model

SMEC overlays its design model on top of this scalable mesh, bringing in designs from a multitude of CAD applications into a common data environment. This provides rich

levels of functionality that include simulation, clash detection, costings, quantities, collaborative design workflow integration across multi-disciplinary teams, as well as design review updates.

Starting with the baseline design, and thanks to advances in 3D modelling software, Archer says it’s extremely valuable to develop 3D conceptual design models that can be used as a basis for client and community stakeholder discussion during the feasibility phase, and then to interrogate and refine it further during the design development stages to ultimately take the project through to fully digital-driven construction.

A practical example is a future planning study carried out for TRAC at Schoemanskloof. Here the existing road has a speed limitation of 100 km/h due to the challenging terrain and the existing horizontal and vertical curvature of the road. To showcase one option to improve the level of service (LOS), travel time, and safety, SMEC submitted a conceptual design overlaid on a scalable mesh design showing a proposed new alignment in an oblique view. TRAC’s engineers were then able to visualize SMEC’s proposal and evaluate the proposed alignment on site.

“There’s no doubt that 3D models convey the message with far more clarity than a conventional cross section or layout drawing, something that clients really appreciate,” Archer explains.

### App development

To enhance the digital experience, SMEC has a Management Services Function that develops purpose designed maps and apps for use by its personnel as well as its clients.

“In TRAC’s case, the engineers are using the app to carry out route inspections, future planning scenarios, or to validate design proposals using a tablet to log reports by taking a photo and/or adding a voice or written note. Since all available terrain information is preloaded, location photos taken are instantly

recognised and referenced,” Archer continues.

### Traffic studies

In terms of its agreement with SANRAL and ANE, there are set LOS targets that TRAC must adhere to now and in the future during the concession period, which requires submitting a status report annually. The LOS scale runs from A through F and forms the basis of current operations management and future planning.

An A rating indicates idyllic driving conditions, while an E rating indicates heavy congestion and a situation where road users travel under very poor and frustrating conditions. An F rating, in turn, indicates a complete failure of the facility.

Globally, the Highway Capacity Manual (HCM) issued by America’s Transportation Research Board is one of the benchmarks for measuring traffic flows and calculating LOS.

To advance what has traditionally been a manually intensive process of reprocessing HCM calculations for different scenarios, SMEC has created a traffic-centered 560 km digital twin of the entire Maputo Development Corridor as a microsimulation model using the PTV Vissim multi-modal traffic flow simulation software. As the term microscopic implies, this is a highly detailed simulation model.

SMEC has calibrated the model in terms of metrics like driver behaviour, actual travelling speeds measured on the road, and vehicle class performance for every section of the N4 that TRAC is responsible for. This model includes all significant interchanges and intersections on the route. The results of these microsimulations can then be used to advise on infrastructure upgrade requirements to maintain the level of service experienced by road users.

When TRAC submits its LOS report each year, all the latest traffic data recorded at various counting stations, as well as the N4 toll

plazas, are analysed and reported on.

### Holistic assessment plans and smart designs

Another solution developed for the TRAC concession is a holistic assessment plan. “Using our data, we’ve been able to consolidate existing road infrastructure, geometric alignment, heavy vehicle travel speeds and accident statistics over the past five years and plot them along the route to pinpoint hotspots. We overlay this with the PTV Vissim model analysis to identify where additional lanes and/or passing lanes are required on specific sections to maximise LOS and improve safety,” Archer continues.

To further refine its delivery models, SMEC is exploring the world of artificial intelligence (AI). “As an AI project experiment, we captured a section of road, with a specific focus on road signs, and ran it through an AI model. Each road sign was automatically geo-referenced and positioned in CAD, identified in terms of type and material, dimensioned, and quantified. This exercise definitely shows the potential for AI to process data and use to promote accuracy and efficiency,” adds Archer.

“Going forward, our objective is to leverage digital technologies to achieve more efficient results and workflows. In this respect, we’ve come a long way in the past five years, constantly shifting the boundaries of virtual design to engineer safer and more effective transportation solutions,” Archer concludes.

“

There’s no doubt that 3D models convey the message with far more clarity than a conventional paper drawing, something that clients really appreciate.”

— Edward Archer, Function Manager, Roads & Highways







Renewables

## Sophisticated outcomes

We apply critical thinking to develop sophisticated engineering solutions that meet the practical challenges of today as well as the needs of tomorrow.

Image: Borumba Pumped Hydro, Australia



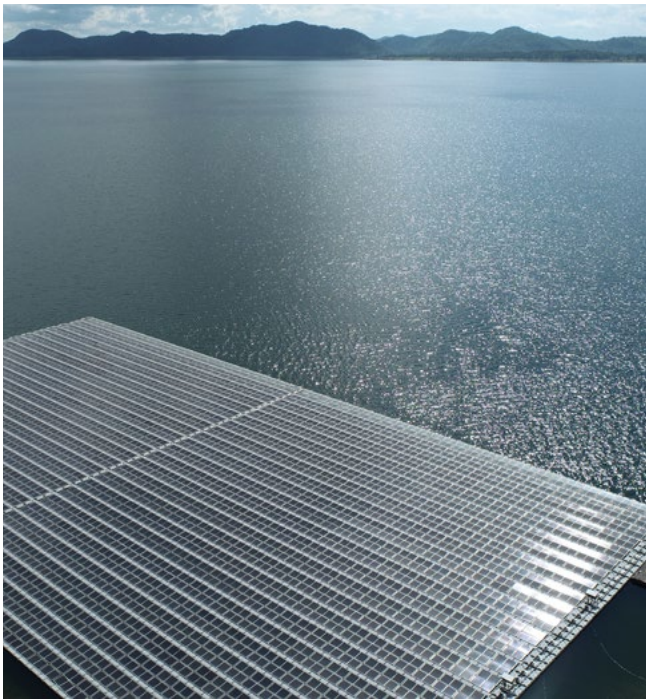
Borumba Pumped Hydro, Australia

### Powering our communities long into the future

SMEC is assisting Queensland Hydro in the development of the Borumba Pumped Hydro Energy Scheme, leveraging their expertise in pumped hydroelectric projects. The project aims to utilise Lake Borumba as a lower reservoir for energy and water development. Located near Imbil in the Gympie Region, it's strategically positioned for renewable energy integration, benefiting from existing infrastructure and

its location within the Southern Queensland Renewable Energy Zone. The scheme targets powering two million Queensland homes with 2 GW of energy and 24 hours of storage capacity, contributing to Australia's net zero emissions goal by 2050. SMEC's involvement includes conducting detailed analytical reports and front-end engineering. [Read more](#)





**Bui Power Hydro Solar Hybridization, Ghana**

**Delivering Ghana’s first hybrid solar-hydro plant**

SMEC partnered with Sienna Services Limited to aid Bui Power Authority (BPA) in Ghana’s renewable energy goals. They implemented a Hydro-Solar Hybridization Framework, inaugurated by Ghana’s President in 2020. In 2023, a 5MW floating solar PV array connected to the grid marked the initial phase of a 250MW solar project. BPA sought to augment hydropower during low water levels, enhancing year-round operation. SMEC conducted various studies, enabling grid expansion and hybridization with existing infrastructure. The project doubles Ghana’s grid-connected solar energy, cutting greenhouse emissions by over 47,000 tons yearly. It contributes to Ghana’s aim to increase renewable energy by 10% by 2030, aligning with UN climate goals. Additionally, it improves the Bui reservoir’s efficiency, provides clean energy, and electrifies approximately 450,000 households, ensuring stable and affordable power. [Read more](#)

**Winton Solar Farm, Victoria**

**Helping meet renewable energy targets in Victoria**

SMEC supported Victoria, Australia’s renewable energy goals through Owner’s Engineering services on the Winton Solar Farm. Expected to power around 50,000 homes and offset 150,000 tonnes of CO2, it’s one of Australia’s largest solar projects with bi-facial PV modules and string inverters. SMEC’s role encompassed technical, planning, design review,

and construction support. Partnering with Fotowatio Renewable Venture, SMEC contributed to delivering 253 MW of FRV’s 429 MW portfolio. This project signifies an innovative approach to maximizing energy production per hectare, enhancing plant availability and flexibility within the National Electricity Market. [Read more](#)





Thought Leadership | Karen Atkinson,  
Chief Operating Officer, South East Asia

## Case study: Malaysia's sustainable energy future

Karen Atkinson, COO ASEAN & Pacific, headed the SMEC delegation at the recent World Hydropower Congress in Bali, Indonesia, where she also led a panel discussion on "Powering the Clean Energy Transition in East Asia and the Pacific". In this article, Karen shares a case study on Malaysia's own journey towards a sustainable energy future, delving into Malaysia's evolving energy landscape and situating the country within the broader context of hydropower development in East Asia and the Pacific.

East Asia and the Pacific stand as the global epicenter for hydropower development, with the region, spearheaded by China, contributing nearly 40% of the world's installed capacity and annual generation. The surge in hydropower activities is a result of rapid economic growth and an increasing focus on sustainable outcomes across various countries in the region. Last year, China alone added an impressive 8.5 GW of hydropower capacity.

Noteworthy in this context are Southeast Asian countries, including Malaysia and Indonesia, which boast ambitious government targets and a strong pipeline of hydropower projects. In the Pacific,

Australia is experiencing a surge in hydropower, particularly in pumped storage, while Papua New Guinea undergoes transformative developments with several projects actively contributing to the electrification of rural communities.

### Malaysia's energy landscape

Malaysia plays a pivotal role in the regional pursuit of sustainable energy solutions. According to the International Renewable Energy Agency (IRENA), Malaysia exhibited substantial growth in its energy sector from 2010 to 2019. Peninsular Malaysia has a total installed generation capacity of 28,324 MW, with hydropower contributing 9.3% (2,642 MW). Sarawak leads with 60.5% hydropower contribution (3,458 MW) out of a total capacity of 5,716 MW, while Sabah relies on hydropower for less than 2% of its 2,080 MW capacity.

SMEC actively contributes to these sustainability efforts by collaborating closely with key partners such as Tenaga Nasional Berhad (TNB) and Sarawak Energy Berhad (SEB). Collectively, they are dedicated to steering Malaysia towards a future where energy is robust and environmentally friendly. Exemplifying this commitment are projects like the Baleh, Nenggiri, and Ulu Jelai

Hydroelectric Power Projects, showcasing SMEC's integral role in advancing Malaysia's aspirations for sustainable energy.

### Malaysia's energy outlook

Looking ahead, Malaysia envisions doubling its energy consumption by 2050. The Planned Energy Scenario (PES) projects a 2.0% annual increase, while greener alternatives, such as the Transforming Energy Scenario (TES) and the 1.5°C Scenario (1.5-S), suggest slower growth rates.

Renewable direct-use sources aim to contribute 20% to final energy by 2050, with clean hydrogen production reaching 1.5 million tonnes. While the PES foresees CO2 emissions rising to 268 million tonnes by 2030, the 1.5-S scenario targets a 60% emission cut by 2050. Achieving Malaysia's 2050 carbon neutrality goal necessitates additional measures, including responsible hydropower development.

Sustainable hydropower holds significant potential for Malaysia's clean energy transition. Hydropower projects can be developed responsibly, aligning with greener alternatives outlined in the TES and 1.5-S scenarios.



Ulu Jelai Hydroelectric Project, Malaysia

### Opportunities for sustainable energy in Malaysia

As Malaysia focuses on a greener and more resilient future, several key opportunities emerge, aligning with broader trends in East Asia and the Pacific. SMEC, which has been operating in Malaysia for more than 40 years, is well placed to provide comprehensive services to support the realisation of these prospects. The strategic opportunities include:

**- Pumped storage and solar synergy:** The increasing investment in solar development will require the addition of pumped storage, ensuring a stable energy supply and addressing intermittency issues associated with renewable sources,

**- Floating solar for additional generation:** Leveraging Malaysia's vast water resources for floating solar projects maximises land use

and enhances energy generation capacity, contributing to renewable energy goals,

**- ASEAN Power Grid integration:** Advancing in renewable energy allows Malaysia to export surplus power to neighboring countries through the ASEAN Power Grid, strengthening regional energy security, and fostering economic collaboration,

**- Renewable power for industry and hydrogen production:** Malaysia can use its renewable energy potential to power industrial processes and hydrogen production, positioning itself as a leader in sustainable industrial practices,

**- Multi-use flood mitigation benefits:** Hydroelectric projects, besides energy generation, offer multi-use benefits like flood mitigation, enhancing the resilience of flood-prone regions

and showcasing the holistic advantages of sustainable energy initiatives.

Malaysia's commitment to sustainable energy aligns seamlessly with the global call for hydropower to be the backbone of national strategies for thriving, low-carbon economies, as emphasised in the Bali Statement on Powering Sustainable Growth. The untapped hydropower potential, especially in developing regions like East Asia and the Pacific, underscores the crucial role sustainable hydropower can play in driving economic development and supporting the clean energy transition. As the world recognises the importance of sustainable hydropower development, Malaysia, through collaborative efforts with organisations like SMEC, contributes significantly to achieving the shared vision of a greener and more resilient global energy landscape.



Bob Tilbury, Market Director and Karen Atkinson, Chief Operating Officer, South East Asia at World Hydropower Conference Bali, 2023







Water & Environment

## Driving sustainable water management and infrastructure across the entire water cycle

Water sits at the core of sustainable development and is fundamental to a thriving society. It permeates all facets of community life and underpins many aspects of the UN 2030 Agenda for Sustainable Development.

Image: The Northern Collector Tunnel, Kenya



The Northern Collector Tunnel, Kenya

### Kenya's longest tunnel harnesses flood water from three rivers

Completed in 2023, the Northern Collector Tunnel project aimed to address Nairobi's water deficit of 125,000m<sup>3</sup> per day. Funded by the World Bank, it harnessed floodwater from three rivers in Murang'a County to supplement the city's supply from Ndakaini Dam. The 12km tunnel encountered geological challenges and navigated through diverse formations, including hard and soft rock. Environmental considerations were critical due to the high-water table and protected zones. Socially, the project aimed



to minimize disruption to local communities. It included a 3m diameter water transfer tunnel, run-of-river weirs, fish ladders, and outtake sluices. Temporary supports like shotcrete linings were used during construction, with reinforced concrete linings in tunnel shafts. Complex intake structures maintained necessary environmental river flows downstream. Overall, the project addressed socio-economic and environmental requirements while enhancing Nairobi's water supply. [Read more](#)





**Metropolitan Sanitation Management  
Investment Project, Indonesia**

**Essential sewerage and  
wastewater treatment  
infrastructure for  
Indonesian cities**

Indonesia faces low urban sewerage coverage, with less than 5% of the urban population connected to treatment plants. The Metropolitan Sanitation Management Investment Project (MSMIP) aims to address this by constructing separate sewerage systems and treatment plants in Jambi, Makassar, and Pekanbaru. SMEC, appointed as the Project Implementation Support Consultant, is developing an integrated solution in collaboration with stakeholders at various government levels. The project includes building 160km of piped infrastructure, 32,300 sewer connections, and three WWTPs. It aims to mitigate water contamination, reduce water-related diseases, and infant mortality. Funding comes from the Asian Development Bank, central and local governments. SMEC also focuses on establishing effective operational frameworks for long-term sustainability. Scheduled for completion in 2024, the project will significantly improve urban wastewater services in Indonesia. [Read more](#)





Urban

## Integrated planning and delivery for thriving, sustainable communities

SMEC’s Urban Communities team takes a holistic and incremental approach to planning, urban design, landscape architecture, engineering, and surveying. We assist our clients prepare for tomorrow’s cities, leveraging smart technology to reimagine how we design the spaces in which we live, work and play.

Image: Greenline Project, Australia



Greenline Project, Australia

### Transforming Melbourne’s riverfront

SMEC along with sister-company Robert Bird Group are supporting City of Melbourne as design reviewers across all disciplines for the first phase of Melbourne’s transformative Greenline Project – the Birrarung Marr Precinct Site 1 being delivered under Design & Construct model by Symal. Reshaping the north bank of the Yarra River, this visionary 4km (when

fully completed) stretch blends interconnected promenades, parks, and Australian native planting, with a commitment to honouring the indigenous heritage of the Wurundjeri Woi-wurrung people. We’re privileged to work alongside Traditional Owners, ensuring their ongoing guidance in crafting a sustainable and culturally vibrant future.





Victoria’s Great Outdoors Program – Parks  
Victoria, Australia

Enhancing the experience of the  
great outdoors

SMEC is delivering a wide range of design services for the Victorian Government’s Victoria’s Great Outdoors Program, which is investing \$100+ million in enhancing forests, parks, and outdoor facilities across the state. Upgrades to campgrounds and facilities increase opportunities for people to get into nature, with co-design efforts involving Traditional Owner groups emphasising environmentally sensitive and culturally significant landscape designs.

SMEC’s role as Principal Design Consultant and Lead Landscape Architect involves leading design

specialists in revitalising facilities to improve accessibility, recreational opportunities and overall user experience. In addition, SMEC provides planning approvals, surveying/mapping, civil and structural engineering, ecology, wastewater and hydrological engineering services.

SMEC has also been coordinating a range of values assessments, investigations and design outcomes with external project partners, including architecture, arborists, building surveying, bushfire and accessibility consultants.



Met Communities Inclusionary  
Housing Pilot, Australia

Affordable social  
housing initiative

SMEC is proud to collaborate with Met Communities, a developer joint venture inclusive of Australia’s leading builder, Metricon, in partnership with the Victorian State Government. Together, we are embarking on a pioneering pilot project aimed at establishing streamlined methodologies to integrate private market homes with affordable and social housing in collaboration with Registered Housing Agencies.

This groundbreaking initiative aims to deliver with a focus on inclusivity and community well-being. The project involves the development of five centrally located sites in Broadmeadows, Reservoir, Noble Park, Wodonga, and Boronia in Victoria.

Through close consultation with government departments, agencies, and local councils, we ensure that each site’s development aligns with community needs and regulatory standards. Our role at SMEC encompasses providing comprehensive Survey and Civil Engineering services, with a commitment to innovation and efficiency.

Key contributions include devising innovative strategies for infrastructure optimisation, development staging, accessible design for all abilities, as well as development of plans for efficient bulk earthworks and retaining structures. Our engagement also seeks to facilitate early builder commencement, enhancing project timelines and overall effectiveness.

SMEC operates in close collaboration with the wider project consultant team, fostering a spirit of cooperation and synergy. Together, we aim to set a new benchmark in sustainable urban development, creating vibrant communities where everyone has access to quality housing and amenities.





# 05

sustainability





Regional Head ANZ  
& Chair, Global Sustainability Council

# A message from Kate Drews

Since the start of the industrial revolution 250 years ago, the world has undergone profound change. A key example of this is the increasing transition to cities and urban settlements. According to the World Health Organisation, by 2050 approximately 70% of the world's population will live in cities. The pace of this urban influx has grown sharply over the past 100 years, in 1913 roughly 10% of the global population lived in cities, and by 2013 this had jumped to 50%. This rapid development has come with a price and impact to both our natural and social systems. Challenges such those posed by climate change, ecosystem collapse and biodiversity loss; digital dependency; rising levels of social inequity and geopolitical instability are on the rise.

In response business, government and society are increasingly and collectively looking for meaningful solutions that can be adopted at pace and scale.

At SMEC, Sustainability is at the heart of our purpose. Across our key market sectors, Transport, Water + Environment and Energy we are aspiring to deliver a meaningful impact in the communities in which we live and work for present and future

generations. We recognise the need for action requires an ambitious, collaborative and collective response. In response to this, SMEC along with our parent company Surbana Jurong, are making a conscious and deliberate shift to make every one of us accountable for sustainability.

Following extensive consultation across the business, we have articulated our sustainability mission statement and Sustainability Charter to facilitate a well-defined, structured path to achieve our sustainability ambitions. Our mission is **to catalyse the transition to a regenerative future.**

Working as part of the organisation's Executive Leadership Team, I am pleased to have been asked to lead the Surbana Jurong Global Sustainability Council of Excellence, working closely with our newly appointed Group Chief Sustainability Officer, Patrick Bellew, Founder and Executive Chairman of leading design firm, Atelier Ten. In this role, I look forward to assisting with our global objective of driving forward transformational change across the dual focus areas of how we do business and how we embed the principles of regenerative futures within the advice we give to our clients.







# Sustainability Charter

Both SMEC and our parent company SJ Group, are committed to a regenerative future in which the built environment is truly a force for good.

Regeneration has a simple goal: to leave the world better off through our actions and efforts. Achieving that goal, however, is challenging. We believe it requires targeted action across six key areas of impact: Nature, Life, Society, Knowledge, Economy, and the Built Environment itself.

**These impact areas are co-dependent:**

Nature sustains Life. Quality of life allows Societies to flourish; strong Societies develop Knowledge, and sharing Knowledge is key to a resilient, thriving Economy. All of these areas support a thriving Built Environment, which in turn, supports them.

At our core, we serve the built environment. For us, each of these impact areas is genuinely foundational to what we do – and in turn, our role as a catalyst means we must actively strengthen them, both directly as a business and through our work with clients.

## Charter implementation and delivery

To deliver on the ambitions laid out in our Charter, the business is in the process of developing a series of strategic implementation plans that will focus and guide practical delivery. Central to this is translating and articulating how we drive project outcomes aligned to our mission of catalysing the transition to a regenerative future. As stated, for SMEC this means delivering tangible outcomes relating to six impact areas and twelve associated actions areas:

### Nature

The natural world sustains us and makes our work possible; the threats facing it must inform our vital work. Our role as a catalyst requires us to actively work with nature to the benefit of the environment – and to help our clients do the same. In this role, our focus is on:

#### Climate action

Putting the built environment on a decarbonised pathway and futureproofing our cities to the effects of climate change; and

#### Ecological resilience

Working with nature to enhance biodiversity, restore habitats, and return our global ecosystems to thriving health.

### Life

Service to people is the foundation of our business, whether it's as designers, advisors, or service providers. In our role as a catalyst, we must ensure our services, and our own work environment, have a positive impact on quality of life. In this role, our focus is on:

#### Healthy bodies

Providing access to clean water, clean air, quality housing, and physical activity; and

#### Healthy minds

Creating environments that are engaging, inspiring, and contribute to mental wellness.

### Society

The connections between people are what make cities great. Our role as a catalyst is to reinforce existing social connections and foster new ones that communities thrive and support all their members as part of a just transition. In this role, our focus is on:

#### Empowerment

Engaging stakeholders as agents of change to transition to a regenerative built environment; and

### Equality

Supporting initiatives and efforts that actively contribute to a diverse and inclusive society.

### Knowledge

The shift towards a truly regenerative urban environment depends on innovating and leveraging our collective knowledge. Our role is to collaboratively advance our industry's thinking to transform how we plan, design, build, operate, and support our cities and infrastructure. In this role, our focus is on:

#### Knowledge advancement

Cultivating our own understanding of the regenerative built environment and how to deliver positive impact; and

#### Knowledge philanthropy

Sharing our insights with agents of change, including clients, communities, and collaborators.

### Economy

Creating economic value and ensuring equal access to opportunity is a critical enabler of regeneration. Our role as a catalyst is to ensure our business, and our services, contribute to a sustainable and resilient economy that all can participate in. In this role, our focus is on:

#### Sustainable value

Prioritising long-term value creation for both our clients and ourselves; and

#### Shared prosperity

Driving inclusive growth and promoting wider economic opportunity for society.

### Built environment

The heart of our business is the built environment; we plan, design, build, operate, and support it. It is our duty to ensure it works not just today, but well into the future. Our role as a catalyst is to ensure the built environment thrives in the long-term, to the benefit of people and the planet. In this role, our focus is on:

#### Future resilience

Emphasising adaptability and transition planning to ensure a future-ready urban environment; and

#### Regenerative innovation

Pioneering new approaches and ideas which promote a regenerative urban environment.





# Alignment to UN Global Compact Sustainable Development Goals

SMEC’s sustainability commitment is demonstrated through our participation in the United National Global Compact (UNGC) initiative.

UNGC represents the world’s largest corporate sustainability initiative with the ambition of accelerating and scaling the global collective impact of business by upholding the Ten Principles and delivering against the UN Sustainable Development Goals.

We are also working towards obtaining ISO 14001 certification for all our offices and are actively implementing strategies to reduce emissions and maximise the use of enewable energy.

Impact Areas	Actions	UN SDG Primary Alignment Areas	SDG Secondary Alignment Areas
Nature	Climate Action & Ecological Resilience	  	   
Life	Healthy Bodies Healthy Minds	  	   
Society	Empowerment Equality	  	  
Knowledge	Knowledge Advancement Knowledge Philanthropy	 	
Economy	Sustainable Value Shared Prosperity	  	    
Built Environment	Future Resilience Regenerative Innovation	   	 

## Energy and carbon

SMEC is committed to reducing its global emissions profile and implementing processes and procedures to support international efforts to transition to a low-carbon future. A key first step in this, is understanding SMEC’s emissions profile across all areas of operations to establish a baseline for establishing emissions reduction targets and developing a Net Zero roadmap and action plan.

Across SMEC’s ANZ operations, we have a Purchase Power Agreement (PPA) in place to procure 100% Green Power energy where it is possible to do so. Green Power, independently audits energy providers to make sure the right amount of renewable electricity is fed into the grid, additional to existing government targets and requirements, to support the ongoing scale and pace of renewable energy transition.

In addition, SMEC has also switched out a number of our petrol-based fleet vehicles in favour of hybrid models and continue to explore opportunities to support an ultimate transition to Electric Vehicles (EVs).

## Sustainable and social procurement procedure

SMEC is committed to ensuring all supply chains adhere to minimum legal standards, minimise reliance on natural resources, lower carbon emissions, and conscientiously assess ethical, environmental, social, and sustainability impacts on the communities where we operate.

SMEC ANZ is proud to continue our partnership with Supply Nation, creating economic development opportunities for Indigenous businesses. On average \$500,000 is spent annually with Supply Nation, ensuring a diverse and inclusive supply chain, and fostering growth and sustainability for Indigenous businesses. SMEC will continue to build and improve our Indigenous supply chain in support of Indigenous suppliers.

## Sustainability in infrastructure

We recognise the critical role that infrastructure plays in promoting a sustainable community. SMEC advocates for environmentally sustainable outcomes across projects and strives to educate stakeholders about environmental sustainability.

SMEC invests in sustainable business practices to achieve long term prosperity and is committed to embedding a culture of sustainability awareness in functional, operational and regional areas of the business. As a company, we engage in energy efficiency, water usage and waste management programs in order to improve our green office operations.

Our global team features sustainability specialists, social scientists, environmental planners, environmental scientists, ecologists, asset managers, urban designers and engineers who work collaboratively to deliver holistic project outcomes across the triple bottom line (environment, economic and social). Our team brings an in-depth understanding of critical sustainability issues, having assisted clients with the development of frameworks, tools and indicators to deliver sustainable project solutions and drive innovation.

We continually explore and implement practical application of advancing technologies to provid innovative, cost effective and sustainable solutions across sour projects.

### Social services

- Social impact assessment (SIA)/Social risk analysis
- Resettlement and livelihood restoration
- Social management planning and community investment programs
- Social compliance and due diligence auditing
- Governance
- Community and stakeholder engagement
- Education
- Health

### Sustainability services

- Climate risk, vulnerability and adaption assessments
- Greenhouse Gas Reporting
- Management and Disclosure
- Sustainability planning, monitoring and reporting
- Sustainability integration, management and assessment
- Sustainability rating implementation and delivery

### Environmental services

- Environment planning, auditing and assessment
- Ecological assessments
- Water resources and groundwater protection
- Feasibility, concept, design and grid connection for renewable energy projects
- Wetland and waterway rehabilitation Waste to energy conversion
- Hydrogeological and hydrological investigations
- Contaminated site assessment and management
- Marine infrastructure development
- Coastal zone management
- Flora and fauna surveys
- Water quality monitoring (ground, surface and drinking water)
- Acid sulphate soils assessment
- Energy advisory services



# Projects

## Wajir Water Supply Project, Kenya

SMEC International Pty Limited was contracted by UNDP to provide consultancy services for Engineering Feasibility Studies and Hydro-Geophysical Surveys – Wajir Water Supply Project. The assignment aims to improve social cohesion in the borderlands of Wajir and surrounding communities through an improved water supply system by contributing to increased efficiency, affordability, and accessibility for equitable service delivery of water services to refugees, IDPs, and host communities.

This assignment aims to provide engineering feasibility studies, hydro-geophysical surveys, detailed design and tender documentation and engineer’s estimate works for water supply source development, transmission, storage, and distribution through to water infrastructure. The outcome of this consultancy will lead to the development of a climate-resilient water and sanitation infrastructure in the targeted areas.



## Catchment Management and High Action Plans, Malawi

SMEC, funded by the World Bank through Malawi’s Ministry of Water and Sanitation, developed catchment management plans and village-level action plans for three districts in southern Malawi. The project aimed to promote sustainable landscape management practices and improve watershed services. It focused on scaling up landscape restoration and enhancing livelihoods while addressing climate vulnerabilities. Additionally, it supported infrastructure investments to maximize watershed benefits and build institutional

capacity. SMEC identified seven priority catchments and developed detailed plans, including Strategic Catchment Management Plans, Sub-Catchment Management Plans, and Village Level Action Plans. These plans outlined actions for priority water infrastructure, ecological functions, agriculture, and institutional capacity. Environmental and social impacts were assessed, and mitigation measures proposed for planned interventions.

## Nagaland Urban Infrastructure Development Project, India

The Asian Development Bank, in collaboration with the Government of India, is financing the Nagaland Urban Infrastructure Development Project to enhance urban infrastructure resilience in sixteen district headquarter towns. Nagaland, as an international border state, holds potential for national and international trade. The project aims to harness this potential by developing these towns into growth hubs. Investments will target roads, drainage, sanitation, and other sectors to bridge existing gaps and prepare for future needs. A scientific methodology assesses climate risks, urbanisation levels, and institutional capacity to prioritise towns and sectors for development. Stakeholder engagement ensures alignment with local needs. The project aligns with the 2030 Agenda for Sustainable Development, emphasising equality and inclusion. Sustainable urban strategies integrate climate resilience, with a focus on community engagement and climate financing.







# 06

## governance





## Human rights

Our objective is to protect and uphold internationally proclaimed human rights. SMEC is a United Nations Global Compact corporate participant and incorporates the Ten Principles of the United Nations Global Compact into its business initiatives.

Through a broad range of policies, procedures and frameworks, SMEC fully supports and advocates for the protection of internationally proclaimed human rights.

### Modern slavery

SMEC has a Modern Slavery Policy which confirms its commitment to addressing risks of modern slavery within its operations and supply chains and provides a framework for SMEC to prevent, mitigate and, where appropriate, remedy modern slavery within its operations and supply chain.

SMEC’s modern slavery framework includes a commitment from the Board of Directors, supply chain mapping, risk based due diligence, training, a grievance mechanism consistent with the United Nations Global Compact (UNGC) guidance, remediation and continued improvement.

SMEC implemented risk based enhanced modern slavery due diligence on its suppliers and continues to gain a deeper knowledge of our supply chain to identify and mitigate any potential adverse human rights impacts in our supply chain.

### Eradication of forced labour

SMEC is committed to the elimination of all forced and compulsory labour. We comply with all national and international employment legislation and protocols to ensure the highest standards of protection for our employees. Our Code of Conduct ensures that ethical employment and labour practices are implemented across our organisation. Through its modern slavery framework and due diligence, SMEC is also committed to the identification and remediation of such practices within its supply chain.

### Child protection policy

SMEC maintains a zero-tolerance policy in relation to child exploitation and abuse. Child Protection Policy training and police checks for those working with children is mandatory for all SMEC employees. We continue to review our Child Protection Policy and associated processes and practices to ensure rigorous compliance with the standards set out by the Australian Department of Foreign Affairs and Trade.



## Corruption and bribery

SMEC prohibits Bribery and Corruption in all of the SMEC Group’s business dealings in every country. This prohibition also applies to consultants and third parties who deal with others on behalf of the SMEC.

Employees are strictly prohibited from offering, promising, giving, receiving and authorising of any benefits, directly or indirectly to any person or organisation to improperly influence and obtain business or an advantage. These include:

- Misuse of position
- Give or receive any gifts which include, but not limited to entertainment, hospitality, travel and accommodation
- Providing any donations or contributions of cash or in-kind donations/contributions on behalf of SMEC to any political parties, officials, campaigns or affiliated organisations
- Making any charitable contributions or sponsorships that do not comply with the requirements of the company’s Charitable Donation and Sponsorship Procedure
- Participate in any fraudulent, misleading, deceptive, coercive or collusive practices.

## Data security

At SMEC, we are dedicated to safeguarding our Information and Communications Technology (ICT) resources from accidental or malicious disclosure, modification, destruction, or theft, while maintaining the open information-sharing ethos of our organisation. To achieve this, we have established a comprehensive framework of policies, procedures, guidelines, and advanced technological measures.

### Robust security measures

We employ a variety of security measures to protect personal, organisational, and client information, including but not limited to:

- Identity security: we use Multi-Factor Authentication (MFA) measures to verify user identities and Privileged Access Management (PAM) help secures critical systems, such as NextGen firewalls and ERP, by controlling and monitoring privileged access
- Enterprise-Grade Backup and Disaster Recovery (DR): Utilises cloud-based repositories for data protection, with formal annual DR exercises to ensure preparedness
- Endpoint Detection and Response (EDR): Protects computers and servers against malicious activities and detects suspicious behaviour
- Secure Email Gateway: Prevents phishing attacks, spam and malware distribution over email
- Managed Security Services (MSS): Tier 1 security partners providing 24/7 IT security management, monitoring and maintenance
- Internet Security: Protects user’s endpoint and identity by monitoring and controlling internet browsing activity.

### Information security policy

Our IT and data security policy establishes a common understanding of information security principles based on confidentiality, integrity, and availability. This policy is designed to guide our organisation in protecting information assets.

### Staff compliance and training

All SMEC staff, including permanent, part-time, contract, temporary staff, and staff from other agencies, must adhere to SMEC’s IT policies and procedures. Any security breaches are thoroughly investigated and may lead to disciplinary action or dismissal. Additionally, all staff are required to complete mandatory IT security refresher training annually to stay updated on best practices and emerging threats.

At SMEC, we are committed to ensuring the highest standards of data security to protect our valuable information and maintain the trust of our employees, clients and partners.



Our Board

The Board of Directors is responsible for formulating SMEC’s strategic direction and ensuring robust corporate governance.

The Board is committed to maintaining an appropriate system of governance and risk management applicable to all SMEC’s locations, business units and functional groups; maintaining the integrity of SMEC’s assets, people and reporting, and complying with legal obligations in all jurisdictions in which SMEC operates. The Board has two permanent committees – the Audit and Risk Committee and the Remuneration and Nominations Committee. Each has written terms of reference and is subject to annual review by the Board.

The SMEC Board has a written charter outlining its responsibilities and governance framework. All Directors are required to retire at the fourth Annual General Meeting following their appointment, except for the Managing Director.



**Max Findlay**  
Chairman



**Hari Poologasundram**  
CEO SMEC & CEO,  
Surbana Jurong Group



**Say Boon Lim**  
Non-Executive Director



The Management Committee

SMEC’s Management Committee has primary authority for the management and monitoring of SMEC’s operations, and the implementation of the Company Strategy subject to policies and procedures approved by the Board of Directors. The Executive Committee is comprised of senior individuals with extensive experience in strategic and operational planning.

2023 Management Committee

Thank you to the outgoing management committee for your input and guidance. Following a global restructure by our parent company, we are pleased to welcome the 2024 Infrastructure + Energy Management Committee.



**Hari Poologasundram**  
Chief Executive Officer,  
SMEC International



**James Phillis**  
Chief Executive Officer,  
SMEC, ANZ



**Dr Uma Maheswaran**  
Chief Operating Officer,  
South Asia



**Karen Atkinson**  
Chief Operating Officer,  
South East Asia



**John Anderson**  
Chief Operating Officer,  
Africa



**George Simic**  
Chief Strategy and  
Growth Officer



2024 Management Committee



**Hari Poologasundram**  
Chief Executive,  
Infrastructure & Energy



**James Phillis**  
Chief Operating Officer,  
Infrastructure & Energy



**Felicity Harris**  
Global Lead, Finance,  
Infrastructure & Energy



**Trevor Sullivan**  
Senior Executive Director,  
Transport



**Suzanne Gibbs**  
Global Lead, Marketing &  
Communications,  
Infrastructure & Energy



**Karen Quinlan**  
Global Lead, People & Culture,  
Infrastructure & Energy



**Wooi Leong**  
Senior Executive Director,  
Energy



**Bob Tilbury**  
Senior Executive Director,  
Water + Environment



**Jonathan Powell**  
Director, Global Clients &  
Partnerships

Audit and Risk Committee

The Audit and Risk Committee assists the Board with financial reporting, managing SMEC’s material risks and ensuring that financial information is accurate and timely. The Audit and Risk Committee must have at least three members, consist only of Non-Executive Directors, have a majority of independent Directors, and have an independent Chair (who is not the Chair of the Board).



Remuneration and Nominations Committee

The Remuneration and Nominations Committee works to ensure that SMEC secures, motivates, and retains highly skilled and diverse senior executives and employees. The Remuneration and Nominations Committee must have at least three members, consist only of Non-Executive Directors, have a majority of independent Directors, and have an independent Chair.

Global Sustainability Council

The Global Sustainability Council (GSC), comprising representatives from member companies and the regions SMEC operates in, will consolidate our sustainability efforts, drive our commitment across all levels of the organisation, and place us in the best position to advise our clients in their journeys towards net zero.



**Patrick Bellew**  
Chief Sustainability Officer



**Kate Drews**  
Council Chair



**Rebecca Miller**  
Member, ANZ



**Praveen Hassan Chandrashekar**  
Member, ASIA



**Richard Palmer**  
Member, AMEP



**Su Min Ling**  
Exective Sponsor



**George Simic**  
Exective Sponsor



**Joshua Tay**  
Investor Representative,  
Temasek



Associated entities

Entity	Contry of incorporation
PT SMEC Denka Indonesia	Indonesia
Himalayan Green Energy Private Limited	India
LDLC Properties (Pty) Ltd	South Africa
Soilco Materials Investigations (Pty) Limited	South Africa
SMEC (Malaysia) Sdn Bhd	Malaysia
VKE Infrastructure Services (Pty) Limited	Namibia
TT Energy Private Ltd	India

Controlled entities

Entity	Contry of incorporation
Global Maintenance Consulting Pty Ltd	Australia
PDR Engineers Pty Ltd	Australia
SMEC Australia Pty Ltd	Australia
SMEC Holdings Pty Ltd	Australia
SMEC International Pty Ltd	Australia
SMEC Services Pty Ltd	Australia
ACE Consultants Limited	Bangladesh
SMEC Bangladesh Ltd	Bangladesh
VKE Botswana Pty Ltd	Botswana



SMEC Chile Limitada (formerly Global Maintenance Consulting Chile Limitada)	Chile
SMEC Asia Ltd	Hong Kong
SMEC Rail India Private Limited (formerly Leadrail Infra Solutions Private Ltd)	India
SMEC India (Pvt) Ltd	India
SMEC Central Asia LLP	Kazakhstan
SMEC Kenya Limited	Kenya
SMEC Macau Engineering Consulting Limited	Macau
SMEC International (Malaysia) Sdn Bhd	Malaysia
SMEC Servicios De Ingenieria De Mexico	Mexico
SMEC Myanmar Company Limited	Myanmar
Vincpro (Pty) Ltd	Namibia
SMEC Namibia Consulting Engineers (Proprietary) Limited	Namibia
SMEC New Zealand Ltd	New Zealand
SMEC Nigeria Limited	Nigeria
South Asia Middle East Management Company LLC	Oman
Engineering General Consultants (Pvt) Ltd	Pakistan
SMEC Oil and Gas (Private) Limited	Pakistan
SMEC Pakistan (Pvt) Ltd	Pakistan
SMEC PNG Ltd	Papua New Guinea
SMEC Philippines Inc	Philippines
ECCL Singapore Pte Ltd	Singapore
Global Maintenance Consulting Singapore Pte Ltd	Singapore
SMEC South Africa Pty Ltd	South Africa
SMEC International (Africa) Pty Ltd	South Africa
Soillab Pty Ltd	South Africa
Ocyana Consultants Pvt Ltd	Sri Lanka



SMEC (Tanzania) Limited	Tanzania
SMEC Uganda Limited	Uganda
SMEC Vietnam JSC	Vietnam
SMEC Tashkent LCC	Uzbekistan

## Company memberships

### Australia and New Zealand

A United Commercial and Allied Employers Association
Asset Management Council (Australia)
Association of Land Development Engineers
Australasian Corrosion Association
Australian Airports Association
Australian Institute of Landscape Architects
Australian institute of Traffic Planning Management (AITPM)
Australian National Committee on Large Dams
Australian Water Association
Clean Energy Council
Committee for Geelong
Committee for Sydney (Australia)
Consult Australia
Consulting Surveyors New South Wales
Consulting Surveyors Victoria
Diversity in Tunnelling
Engineers Australia



Facilities Management of Australia (FMA)
Global Compact Network Australia (GCNA)
Infrastructure Partnerships Australia
Institution of Surveyors Victoria
International Development Contractors Community
New South Wales Business Chamber (Australia)
Permanent Way Institute – QLD Chapter Gold Sponsors
Planning institute Australia
Power of Engineering
Property Council of Australia (PCA)
Roads Australia; Roads Australia CEO cohort
Supply Nation (Australia)
Australian institute of Traffic Planning Management (AITPM)
Australian National Committee on Large Dams
Australian Water Association
Tertiary Education Facilities Management of Australia (TEFMA)
Urban Development Institute of Australia
Waste Management and Resource Recovery Association of Australia

### South East Asia and Pacific

Association of Consulting Engineers Malaysia
Australia Mining Chambers (Indonesia)
Australia Myanmar Chamber of Commerce
Australia Papua New Guinea Business Council
Australian New Zealand Chamber of Commerce, Philippines





Board of Engineers, Malaysia
Singapore Association Myanmar
British Chamber Myanmar
Council of Engineering Consultants of the Philippines
Ikatan Nasional Konsultan Indonesia (National Association of Indonesian Consultants)
Indonesia Australia Business Chambers
Malaysia Australia Business Council
Myanmar Oil and Gas Service Society
Papua New Guinea Chamber Mines and Petroleum
Singapore Association Myanmar

Africa

Association of Consulting Engineers Botswana
Association of Consulting Engineers of Namibia
Association of Consulting Engineers Zambia
Association of Tanzania Employers
Consulting Engineers South Africa
Department of Petroleum Resources (Nigeria)
Engineering Institution of Zambia
Engineers Registration Board, Tanzania
Federation of Kenya Employers
Ghana Institution of Engineers
Institution of Engineers Rwanda
Institute of Municipal Engineering of Southern Africa
International Union of Soil Sciences, Nigeria
National Construction Industry Council, Malawi

National Environmental Standard & Regulations Enforcement Agency of Nigeria
Nigeria Institute of Soil Science
Petroleum Authority of Uganda
PPDA –Public Procurement and Disposal Authority Uganda
SAAMA (South Africa Asset Management Association)
Soil Science Society of Nigeria
South African Bureau of Standards
South African National Committee on Large Dams
South African Oil & Gas Association
South African Road Federation
Uganda National Chamber of Commerce (Uganda)
Water Institute of Southern Africa

Americas

AIC Membership (Asociación de Empresas, Consultoras de Ingeniería de Chile – AIC A.G.)
Professional Engineers Ontario

South and Central Asia and Middle East

Consulting Engineering Association of India
Delhi Chamber of Commerce
National Energy Services Company
Pakistan Engineering Council

Global

International Hydropower Association
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