SMEC

Member of the Surbana Jurong Group

Annual Review
2019

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South Africa

Port Pirie Sports Precinct
Australia

70 years of impact

Since 1949, we have engineered and designed solutions that help to move and connect people, provide access to essential resources and build more sustainable communities worldwide.

MESSAGE FROM THE CEO

In 2019, SMEC celebrated 70 years since construction started on the Snowy Mountains Hydroelectric Scheme – SMEC's namesake project and one of the civil engineering wonders of the modern world.

Hari Poologasundram, CEO SMEC & CEO International Surbana Jurong, looks back on this milestone anniversary and what he's looking forward to for the future of SMEC.

"...two key themes stand out to me and I believe continue to inspire our teams today. One is that diversity is in our DNA. We have employees from over 70 nationalities in 40 different countries, each bringing their unique skills, background and perspectives to our company.

Q: It's been 70 years since the birth of SMEC, so to speak, when the Snowy Mountains Scheme kicked off in 1949. How important was this milestone for SMEC?

The Snowy Mountains Hydroelectric Scheme was recognised as a Defining Moment in Australian History in March 2017 – and it's certainly shaped our history as well. The Snowy Mountains Scheme is our heritage and the birthplace of what we call the 'SMEC Spirit' – resilience, passion for technical excellence, innovation and determination to overcome odds. These are still at the core of our people, values and culture.

While SMEC has since gone on to deliver many other major projects around the world, the Snowy Scheme is an enduring Australian legacy. In fact, the Scheme today provides approximately 32% of all renewable energy to the eastern mainland grid of Australia. We're very proud to have been the company that built it.

Q: How do the incredible engineering achievements of the Snowy Mountains Scheme inspire SMEC today?

Around 100,000 people from more than 30 countries worked together in extreme conditions to build the Snowy Scheme. Around 65% of these were migrants, known as New Australians, who had travelled across the world to seek a new life after the turmoil of World War II.

Personally, two key themes stand out to me and I believe continue to inspire our teams today.

One is that diversity is in our DNA. We have employees from over 70 nationalities in 40 different countries, each bringing their unique skills, background and perspectives to our company.

The second is the grit, determination and resilience of these early pioneers. We're still engineering and designing solutions to some of the world's most complex problems, such as housing, sustainability, transport, energy, clean water and sanitation.

Our teams have shaped these outcomes in some of the world's harshest and most challenging environments. This takes innovation, ingenuity and skill of the same type that made the bold, unprecedented vision of the Snowy Scheme a reality.

Q: What kind of impact do you envision SMEC making in the next 70 years?

Since stepping into the role of CEO, I have seen SMEC grow and evolve significantly as we continue our transformation into a global consultancy, together with our parent and sister companies.

In many ways, we're still doing what we do best – drawing on exceptional talent, with a relentless focus on technical excellence, to deliver value solutions to our clients that help to move and connect people, provide access to essential resources and build more sustainable communities around the world.

What's exciting now is that as part of the Surbana Jurong Group, we have access to a network of specialist companies providing expertise to complex projects worldwide. This means we're better placed than ever to tackle multifaceted challenges with connected solutions.

Another way in which we are amplifying our impact is through the innovative application of data and technology, from IoT connected sensors through to artificial intelligence, machine learning and immersive experiences. We're realising opportunities to unlock new ways to travel, communicate, build, explore and create, as well as deliver time and cost efficiencies and sustainable solutions that add value for our clients.

Hari Poologasundram
CEO SMEC & CEO International Surbana Jurong

ABOUT US

SMEC is a global engineering, management and development consultancy with a workforce of 5,500+ employees shaping sustainable solutions for our clients, partners and communities worldwide.

Aligning global experience with local knowledge, we deliver advanced engineering, design innovation and advisory across the full infrastructure spectrum including rail and metro, roads and highways, airports, energy, water and sanitation, and urban development.

Our growing network of specialist partners enables us to connect the best teams with the right expertise to tackle complex challenges on major infrastructure projects.

Global network of specialists

Working alongside our parent and sister companies, we provide specialist expertise for complex projects worldwide, either independently or in partnership.

OUR APPROACH

We take a values-driven approach to everything we do. Our core values of Integrity, People, Professionalism, Partnership and Purpose are part of our DNA, representing what we stand for, what we expect from employees, what we deliver to our clients, and how we aim to conduct our daily work. We are committed to leading by example and continuing to build a values-led global culture.

35+
Countries

80+
Offices

5,500+
Employees

WHAT DRIVES US

Integrity

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

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 interests of our clients and deliver innovative solutions with high standards of excellence.

Partnership

We build trusted and enduring relationships with clients, partners and colleagues to achieve win-win outcomes.

Purpose

We are passionate and committed to making meaningful impacts on people, environment and communities.

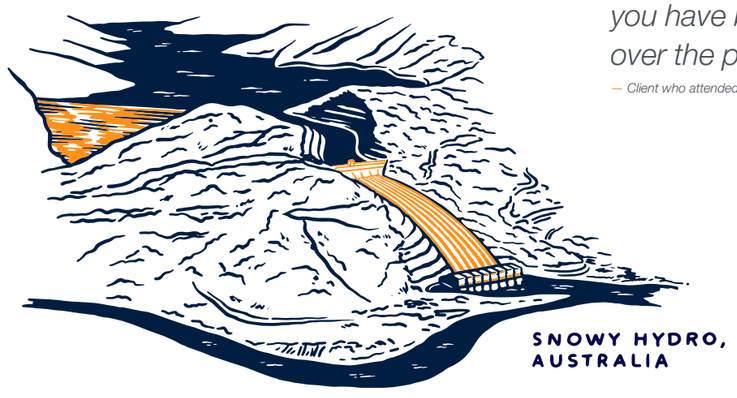
CELEBRATING 70 YEARS OF IMPACT

In 2019, we celebrated 70 years since construction started on the Snowy Mountains Hydroelectric Scheme in Australia – SMEC's namesake project and one of the civil engineering wonders of the modern world. The scheme, considered by many at the time to be an impossible undertaking, was built over 25 years by more than 100,000 workers who came together from 30+ countries.

SMEC today is still made up of pioneers and game changers who are making a difference through their expertise, energy and relentless drive for excellence. Our specialists continue to engineer and design solutions that help to move and connect people, provide access to essential resources and build more sustainable communities around the world.

We were proud to celebrate this milestone anniversary with our colleagues, clients and partners. Over 1,000 employees and 340 clients came together to enjoy celebration events in Australia, India, Pakistan, the Philippines, Indonesia, Malaysia and Chile.

> *Congratulations on reaching this major milestone and also in the legacy of the projects you have been involved with over the past 70 years.*
>
> — *Client who attended celebration event, Australia*



> *It [SMEC's 70-year anniversary celebrations] created a sense of pride and identity and helped create a stronger connection to our origins and the iconic projects we've been part of.*
>
> — *Karen Quinlan, People & Culture Manager SMEC ANZ*

OUR PEOPLE

Our people are redefining excellence through their skills, passion and experience in not only delivering outstanding outcomes for our clients but also making a difference to their communities.

Graduate program recognised as industry leading

SMEC Australia's Graduate Development Program has been recognised as a leader in the industry, winning gold for Best Learning & Development Project (Induction/Onboarding) and silver for Best Learning Model (Blended) at the LearnX Live Awards 2019.

Karen Quinlan, SMEC ANZ Manager People & Culture, said that the awards illustrated SMEC's commitment to attracting, retaining and developing world-class graduates.

"SMEC's graduates play a key role in the success of our business and they make up approximately 10% of our workforce in Australia. Our Graduate Development Program is designed to attract and retain outstanding candidates. It provides them with the support and training needed to develop the technical and interpersonal skills that will help them to deliver for our clients and become consultants of choice."

Promoting female participation in STEM

Female participation and retention in the engineering field is an important consideration for our industry. In addition to implementing a range of policies and strategies across the organisation to foster a culture based on equal opportunity, SMEC launched the Women in Engineering network in 2019. This employee-led initiative brings women together for training in topics such as personal branding and networking across their areas of expertise.

The group also has a strong community focus and is active in school outreach programs to raise awareness of the careers available in STEM fields. In 2019, female engineers and scientists organised a number of visits to high schools and universities, as well as student excursions to SMEC's offices, to engage school age children in what an engineering or science career could look like for them. A mentoring program for female students at Griffith University in Australia was also piloted with very positive results.

> *The most meaningful part of helping to lead this program [Griffith University Mentoring Program] was seeing the students' change in confidence from the first to the last workshop. It can be daunting to transition from university to the corporate world, and if we can make that transition a little easier for the next generation of female STEM superstars, then it was a success.*
>
> — *Amy Smith, Graduate Engineer Water Infrastructure, Australia*

227

Participants in SMEC Australia's 2019 Graduate Development Program

41%

41% female graduates, an increase of 17% from 2018

OUR COMMUNITIES

We are proud to be making a positive difference to communities through the SMEC Foundation, our charity partners and employee volunteering. Our Corporate Social Responsibility (CSR) framework focuses on three core areas: People, Community, and Sustainability and Environment

The SMEC Foundation is a key component of our CSR framework, and helps fulfil our commitment to community development and sustainable poverty reduction by providing small-scale grant support to development projects, communities and charities around the world. Our people actively volunteer for and support causes they are passionate about, with many community projects proposed and implemented by local offices and teams.

SMEC Foundation recognised for community contribution

We are proud that the SMEC Foundation was named an ABA100 Winner for Community Contribution in The Australian Business Awards 2019.

The Australian Business Award for Community Contribution recognises organisations that implement initiatives that have a positive impact on the community and generate outcomes that have a long-term benefit.

> *This award recognises our people's active involvement in social development in the many countries where SMEC has a presence. Our employees are committed to making a difference to communities in need. It's part of the 'Spirit of SMEC.'*
>
> — *Roger Bayliss, Chairman, SMEC Foundation*

The Point
Australia
Image courtesy of Mirvac Property Group

AWARDS & RANKINGS

Our awards are a testament to our commitment to innovation, collaboration with clients and partners, and the specialist expertise of our talented people.

#27, Engineering News Record (ENR) 2019

- Top 225 International Design firms list.

Main Road 118 between Oranjemund and Rosh Pinah

Namibia

- Commendation, Best International Project category, CESA Aon Engineering Excellence Awards.
- Winner, Civil Engineering category, Best Projects Awards.

Technical Support Services to Municipalities implementing Expanded Public Works Programme Infrastructure Projects

South Africa

- Joint winner (with Naidu Consulting), Community-Based Project category, South African Institution of Civil Engineering awards.

Atherstone Masterplanned Community

Australia

- Commendation for Atherstone Project Team Collaboration, Consultants' Excellence category, Urban Development Institute of Australia (Victoria Division) Awards for Excellence.
- Commendation for Atherstone People Movement and Precinct Planning Project, Consultants' Excellence category, Urban Development Institute of Australia (Victoria Division) Awards for Excellence.

Upgrade of the Mount Edgecombe Interchange

South Africa

- Winner, Roads & Bridges category, CESA Aon Engineering Excellence Awards.

SMEC Foundation

Australia

- Winner, Community Contribution category, Australian Business Awards 2019.

SMEC Australia Graduate Development Program

Australia

- Gold, Best Learning & Development Project (Induction/Onboarding), LearnX Live Awards 2019
- Silver, Best Learning Model (Blended), LearnX Live Awards 2019.

Dr. Richard Kelly, Chief Technical Principal - Geotechnical Engineering

Australia

- Winner of Roads Australia Award for Technical Excellence 2019.

Kate Drews, Market Director Urban Communities

Australia

- Appointed Director on the Board of Consult Australia.

INNOVATIVE SOLUTIONS TO COMPLEX CHALLENGES

In 2019, we are proud to have delivered major projects across the infrastructure, urban development and management services sectors. We marked the end of several long-term assignments with outstanding results and embarked on fresh challenges through significant new appointments.

In presenting a selection of our completed projects and new wins around the world, we aim to highlight our partnerships, client relationships and technical specialists, who build on local knowledge with global experience to deliver value.

By providing innovative and sustainable solutions to some of the world's most complex challenges, we contribute to improving health, development and quality of life outcomes for global communities.

Sydney Metro Northwest
Australia
Images courtesy of Sydney Metro

EMBODYING EXCELLENCE ON THE MT EDGECOMBE INTERCHANGE

Upgrade to Mt Edgecombe Interchange, South Africa

A decade after the project was launched in 2009, the upgrade of the iconic Mt Edgecombe Interchange in South Africa was officially completed in 2019.

The largest interchange project in South Africa

The project involved upgrading an existing diamond interchange layout to a free-flow, four-level configuration.

SMEC provided consulting engineering services throughout the decade-long project and overcame numerous design constraints and challenges to produce what has been described as “an outstanding example of technical expertise and quality which has contributed substantially to alleviating heavy traffic congestion and contributing to the transportation efficiency and the economy of the region” (judges’ comments, 2018 SAICE Durban awards).

A creative geometric solution to space constraints

Meeting the challenge of upgrading a heavily trafficked interchange connecting major collector-roads within significant space constraints required a successful combination of planning and innovative engineering design. These physical constraints included current and future developments, existing road reserve boundaries, traffic congestion, future traffic demands, the proximity of the Gateway Theatre of Shopping offramp from the M41 and preservation of existing stormwater attenuation areas.

The longest bridge structure in South Africa

Our specialists designed a creative geometric solution which took the form of a four-level, free-flow interchange with full-width directional ramps. This eliminated the need for controlled signalisation, thus ensuring the free flow of traffic in all directions whilst keeping the geographical footprint of the interchange as small as possible and largely within the constraints of the road reserve.

Engineering innovation sets new standards

While the project boasts many examples of engineering excellence, its most iconic features are the two upper-level ramp viaducts. One of these, Bridge B0215, has a deck length of 947 metres, which makes it the longest incrementally launched bridge in the Southern Hemisphere, as well as the longest bridge structure to ever be built in South Africa. What sets the bridge apart, however, is that it was constructed in two decks, which were both incrementally launched from opposite sides and designed to meet in the centre. Ensuring that the two decks would meet up within dimension tolerances required innovative design, precision survey work, and sound construction management. The final position of the decks was 7mm from the design position transversely, and 0mm from the design level vertically. Given their size and the fact these decks were launched from opposite ends, this accurate final position is a testimony to the intricate workmanship and world class engineering capabilities of SMEC’s specialists in South Africa.

A vital artery in both transportation and economic systems

The Mt Edgecombe Interchange is on the N3 at Umhlanga, KwaZulu-Natal, one of the fastest developing areas of South Africa. This consideration played a major role in the conceptual design to ensure that the interchange would aesthetically complement its fast-paced modern surroundings; stand the test of time in terms of life-span; and have capacity for the ever-increasing traffic demands.

In addition to its status as a civil engineering work of art, the upgraded interchange has changed the landscape in more ways than one. It is contributing significantly to easing traffic congestion, supporting safer road travel, and enabling economic growth.

9
New or upgraded bridges

947m
Longest bridge structure in South Africa

12.4km
Kilometers of ramps

2017
Fulton Awards Winner

2018
Technical Excellence Winner, South African Institute of Civil Engineering, Durban Branch Awards

2019
Roads and Bridges Winner, Consulting Engineers South Africa (CESA)

LEADING GENERATIONAL CHANGE IN PASSENGER RAIL SYSTEMS

Sydney Metro Northwest, Australia
Image courtesy of Sydney Metro

The $8.3 billion Sydney Metro Northwest project, Australia's largest and most complex public transport project, involved the construction of a new, expansive metropolitan train line to address travel requirements in Sydney's growing North West region.

Opened in May 2019, the project includes eight new railway stations, five existing railway stations converted to metro standard and 4,000 new commuter car parking spaces.

SMEC worked on two of the project's three main packages of work – the Surface and Viaduct Civils package (SVC), completed in 2017, and the Operations Trains & Systems package (OTS), completed in 2019.

Our work on the SVC package, particularly the curved, cable-stayed rail bridge over Windsor Road, earned international accolades, winning both the 2018 Global Best Rail Project and 2018 Project of the Year from Engineering News Record (ENR), the only project in Australia to be recognised.

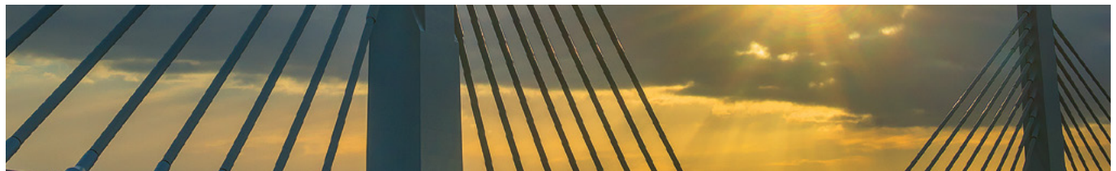
The final phase of rail infrastructure

The OTS package comprised the design, construction and commissioning of rail infrastructure. As part of the design joint venture, SMEC provided the civil engineering, structural, electrical and public utilities designs. The project exemplified our ability to connect a global network of specialists, with fast-track design works undertaken over 24 months, engaging approximately 150 employees in five countries.

Redefining passenger travel

The Sydney Metro Northwest opened to the public in May 2019. In addition to the project being delivered on time and under budget, SMEC is proud to have had a role in leading generational change in rail systems, introducing the first driverless, fully automated passenger trains in Australia.

Within the first five months of operations, the new metro carried more than 75,000 people each weekday. Sydney Metro Northwest has redefined passenger travel and road congestion, future-proofing the anticipated population growth of Australia's largest city.



DELIVERING INDONESIA'S FIRST LIGHT RAIL TRANSIT SYSTEM

Palembang Light Rail Transit System, Indonesia

Drawing on the specialist skills of a 100-strong team from 14 different countries, SMEC supervised the construction of Indonesia's first Light Rail Transit (LRT) system. The Palembang LRT covers 23.4 kilometres of track and includes 13 stations, 9 substations and a depot.

The project team leveraged SMEC's international expertise through value engineering to provide significant cost reductions. Our specialists were able to fast-track design and construction of critical components, enabling LRT operations to begin in mid-2018 ahead of the Asian Games. The remaining works were completed, and the project formally closed in May 2019. In addition to supporting access to the 2018 Asian Games, the Palembang LRT provides much-needed relief from congestion for both locals and visitors to Palembang.

> *SMEC's work has been of a high standard, well planned and implemented through the initial design work, assisting the Client with administration procurement issues and then with construction management, safety and supervision tasks.*
>
> *— Representatives of the Directorate General of Railways (DGR), Ministry of Transportation*

23.4km
Kilometers of track

13
Light Rail Transit stations

9
Substations and a depot

DRIVING INNOVATIVE SOLUTIONS THAT ENHANCE SUSTAINABILITY

Gateway Upgrade North, Australia

For the past decade, SMEC is proud to have been a key partner for the design and delivery of most upgrades to the Gateway Motorway in Queensland, one of Brisbane's most critical transport links.

The five-year Gateway Upgrade North project opened to the public in March 2019. As part of a design joint venture for the 11.3 kilometres of upgraded motorway from Nudgee to Bracken Ridge, SMEC delivered detailed design of all elements, geotechnical investigation management, temporary traffic design, and construction phase support.

Our specialists drew on deep technical expertise to address key challenges including managing high volumes of traffic, widening the motorway over soft soils and a sensitive geotechnical environment, and mitigating impacts on road users.

We collaborated with our partners to deliver innovative solutions that optimised operational performance and enhanced sustainability outcomes, earning an Excellent Infrastructure Sustainability Design Rating from the Infrastructure Sustainability Council of Australia (ISCA).

11.3km
Upgraded 11.3km of motorway from Nudgee to Bracken Bridge

15%
Up to 15% recycled material used in the new EME2 asphalt

1st
First major road project in Queensland to earn an 'Excellent' Sustainability Design rating

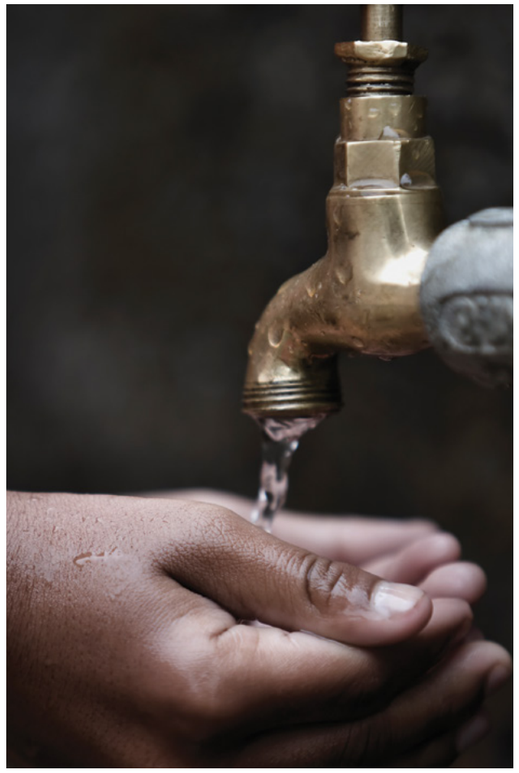
CONTINUED SUCCESS IN PHILIPPINES' RAIL SECTOR

MCRP North Line and NSRP South Line, Philippines

After successfully delivering design and construction supervision of the North South Commuter Rail (NSCR), SMEC has been appointed to provide detailed design of civil, structural, architectural, mechanical and electrical works on the Manila Clark Railway Project (MCRP North Line) and the North South Railway Project, South Line (NSRP South Line).

These are two major sections of the national railway transport system that aims to ease traffic congestion in Metro Manila and beyond, promote inclusive growth and improve transport and logistics services to currently underserved areas.

"We're proud to continue our successful partnership with Oriental Consultants Global Co. Ltd on another major commuter rail project that will support economic growth and improve everyday life for people in the Philippines," said Ric Yuzon, Country Manager SMEC Philippines. "We bring railway engineering expertise from projects all around the world. This appointment, along with our previous work on the NSCR, consolidates our presence in the transport sector."



WATER SUPPLY TO 1,400+ VILLAGES

Bundlekhand Water Supply Scheme, India

As part of the Indian government's goal to ensure that 90% of the country's rural population have piped drinking water by 2022, SMEC and our parent company Surbana Jurong were engaged to prepare Detailed Project Reports on sustainable water supply schemes in Sonbhadra, India.

The communities in this area face water scarcity and diseases resulting from drinking ground water contaminated by arsenic and fluoride.

Our specialist teams consulted on planning, engineering survey design and detailed reports for the proposed water supply scheme, including analyzing the sustainability of the water source, water allocation and environmental constraints. All 16 reports were approved by the Technical Committee of the State Water and Sanitation Mission. These studies support engineering design solutions that, once implemented, will supply safe drinking water to rural households across 1,400+ villages.

A CONTINUED LEGACY – THE LESOTHO HIGHLANDS WATER PROJECT

Lesotho Highlands Water Project, South Africa

One of the world's most successful regional water resources management schemes, the ambitious Lesotho Highlands Water Project (LHWP) comprises a system of large dams and tunnels throughout Lesotho that delivers water to the Vaal Dam in South Africa while generating hydroelectric power for Lesotho.

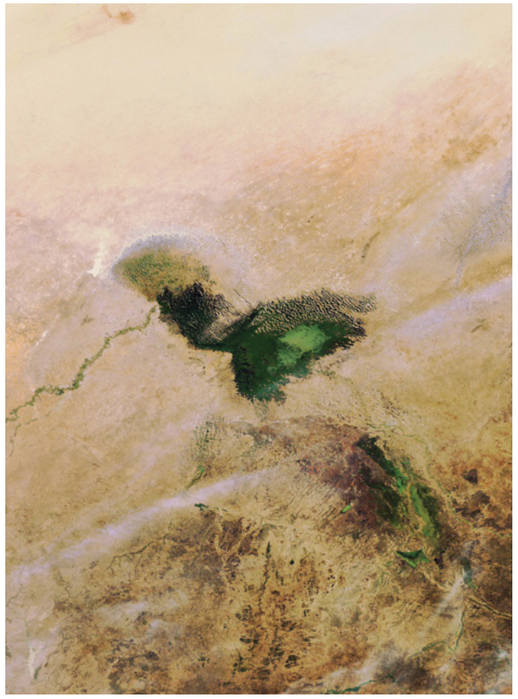
SMEC has been involved with the design and construction of major works since 1988*. We are proud to be an integral part of Phase II, which involves construction of a 38km transfer tunnel to convey water from Polihali to Katse Dam and all associated advance infrastructure. SMEC South Africa, as a member of the Metsi a Senqu-Khubelu Consultants Joint Venture appointed by the Lesotho Highlands Development Authority (LHDA), is providing professional services for the design and construction supervision of the Polihali Transfer Tunnel.

To date, the LHWP has made a tremendous difference to the people of both nations, enabling not only water supply but also essential infrastructure including roads, power lines, schools, housing and clinics, which were constructed to serve the major construction sites and later handed over to the local communities.

Phase II is expected to ensure another source of reliable water supply to South Africa that will meet the demands of the Gauteng region, increasing the current supply rate from the LHWP to the Vaal System by approximately 465 million m^3, and reaching a total of 255 million m^3 per annum.

*through its subsidiary Vela VKE, renamed SMEC South Africa in 2012

> *Training LHDA employees to operate and maintain the tunnel is part of the skills and technology transfer element of this contract. The contract also makes provision for the training of young professionals from both Lesotho and South Africa.*
>
> — *SMEC South Africa Project Director Chris Viljoen.*



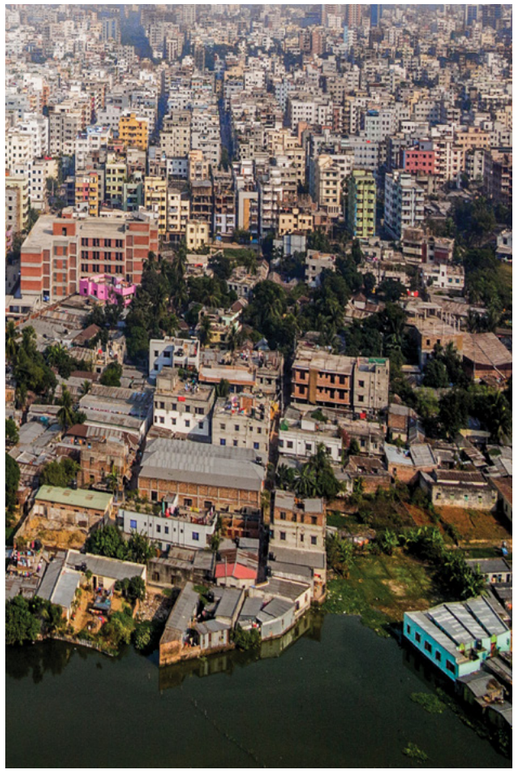
IMPROVING WATER RESOURCES FOR 15 MILLION NIGERIANS

Komadugu-Yobe Basin Water Project, West Africa
Photo Courtesy of NASA Goddard Space Flight Center

The historic Lake Chad Basin in West Africa is home to the Komadugu-Yobe Basin (KYB), which covers a total area of 148,000 km^2.

The Basin supports a population of more than 15 million who economically depend on its scarce water resources for agricultural, fishing and livestock production.

SMEC's Strategic Action Plan for the KYB identified more than 100 recommended projects to be undertaken over the next 25 years to increase water security and sustainability. Specialist teams completed preliminary studies for four priority investment programs to be implemented over the short term. The sustainable approach to integrated water resources management will not only boost livelihoods that are economically dependent on the basin's river system but also ensure that its ecosystems and aquaculture are protected.



CONNECTING 900,000 BANGLADESHIS TO CLEAN WATER

Khulna Water Supply Project, Bangladesh

In 2019, SMEC and its partner ACE Consultants completed a seven-year assignment on the Khulna Water Supply Project in Bangladesh, providing engineering expertise and establishing governance at a local level.

Our services included architectural, mechanical, electrical, civil and structural engineering, resiliency solutions and construction supervision across two packages. The sheer scale of the project, coupled with the unique environment, meant overcoming significant hurdles in the design and construction phases, particularly around land acquisition and the dewatering process. The community benefit is significant, as 90% of the Bangladeshi city's population (up from 23%) now have access to clean drinking water.

AN INNOVATIVE NEW HUB FOR A SPORTS-PROUD COMMUNITY

- Port Pirie Sports Precinct, Australia

Port Pirie is a regional city and seaport town in South Australia made up of a community of sports-proud people. Its residents' passion for sports was the catalyst for creating a robust economic drawcard for the region through the enhanced $25m Port Pirie Sports Precinct.

In 2013, SMEC was commissioned to review and consider options for consolidating and upgrading the region's ageing sporting infrastructure. Following our report findings, SMEC was appointed to the detailed design phase of the project in 2016.

A bold vision brought to life

The project scope included the development and detailed structural and civil design work for a function centre, an aquatic centre incorporating a purpose-built gymnastics hall, squash courts and a swimming facility; and realignment of two ovals hosting Australian Rules Football (AFL), soccer, cricket and baseball. Onsite parking, new floodlighting, new change rooms, canteen and toilets, and a connection to the existing heritage grandstand were required.

SMEC was responsible for detailed structural and civil design on the project, as well as construction supervision of the aquatic centre, function centre and the new tiered grandstand seating.

Our team leveraged their knowledge of sports facilities and collaborated with traffic, geotechnical, civil, and structural engineers within the Port Pirie Regional Council's Project Management team to deliver an outstanding facility. Complex geotechnical and drainage conditions challenged the project, and a bold architectural vision pushed our design abilities.

Innovation delivers both function and aesthetics

Construction was completed in December 2018, just in time for the community to host its 2019 Regional Swimming Championships and 2019 State Masters Games.

Applying lateral thinking combined with strong civil and structural knowledge, our specialists developed several innovative solutions to ensure the sports hub was architecturally pleasing while also functional and maintainable from an engineering perspective.

These included:

- Intricate grading and site design to ensure maintainable and well drained fields.
- A geotechnical system of piles combined with raft slabs to cope with differential movement caused by poor soil conditions in the area.
- A structural design of raking beams to ensure architectural features are showcased.
- Innovative usage of cantilevered steel beams to provide tiered seating with good sightlines.

After nine years in the making, the project has paid off in more ways than one, with the Port Pirie Regional Council estimating it has already injected more than four million dollars into the local community.

The vibrant sporting hub in the centre of Port Pirie has attracted major sporting events to the area, as part of Council's event tourism strategy, and assisted in rejuvenating the Central Business District (CBD).

$4M

After nine years in the making, the project has paid off in more ways than one, with the Port Pirie Regional Council estimating it has already injected more than four million dollars into the local community.

> *SMEC provided services in a timely manner to enable Port Pirie Regional Council and the construction team to meet the tight construction schedule and work in well with all other consultants.*
>
> — *Port Pirie Regional Council*

BUILDING A PLATFORM TO LAUNCH KIGALI 2050

- Kigali Master Plan, Rwanda

Known as ‘Kigali Yacu!’, translated as ‘Our Kigali!’, the new Kigali Master Plan 2050 introduces a more equitable, flexible and incremental approach to city development, aligned with UN-HABITAT principles and supporting the United Nations Sustainable Development Goals. It will guide Kigali city planners in their plans to accommodate a population of 3.8 million residents and provide 1.8 million jobs by 2050.

Together with our parent company Surbana Jurong, SMEC is helping Kigali to enhance and update the master plan created by Surbana Jurong to make Kigali a City for Citizens. Bringing the residents into a collaborative review process was key. A wide variety of communication channels including meetings, planning displays, public announcements, social media and WhatsApp were utilised to engage as many residents as possible in the feedback process.

We supported this review with new and enhanced information and data from additional socio-economic and demographic studies. This was an unprecedented opportunity to further develop the existing master plan with new primary and secondary data from detailed socio-economic analysis, household and market surveys, and modelling for a city-wide transport plan.

This is a key milestone for a country aiming to position itself as the center of excellence for innovative and inclusive urban planning in Africa. The new master plan supports sustainable economic growth and community wellbeing by promoting mixed-use development and efficient land use, providing for an integrated infrastructure and transport network, and ensuring equal access to essential services, housing, public facilities, open spaces and transportation.

3.8M
Population of City of Kigali

1.8M
Jobs to be generated by 2050

SETTING NEW STANDARDS OF EXCELLENCE IN URBAN DESIGN

- Warralily, Australia

Home to over 15,000 residents on a 380 hectare site in Armstrong Creek, a growing suburb in Victoria, Australia, the Warralily master-planned community has been recognised by multiple industry awards, including the 2019 National Environmental Excellence Award from the Urban Development Institute of Australia.

SMEC has played a key role in Warralily since its commencement in 2009, providing civil engineering, surveying, town planning, urban design services, geotechnical, traffic engineering, environmental and ecology services.

The community design prioritises sustainable and walkable neighbourhoods, with almost a quarter of the estate dedicated to passive and active open spaces, alongside easy and safe access to modern conveniences and facilities.

ENVISIONING A RESILIENT INDUSTRIAL DEVELOPMENT

- Al Abdali Economic Zone, Kuwait

Situated in northern Kuwait, the Al Abdali Economic Zone is an important pilot project by the government to promote trade and diversify and future-proof the economy.

An integrated planning approach was required to support this vision, address urbanisation challenges and ensure equal employment and lifestyle opportunities.

SMEC, together with our parent company Surbana Jurong, delivered a detailed master plan and infrastructure design services for utilities such as water supply, sanitation, irrigation, electricity, solar lighting and telecommunications. Leveraging our network of specialists, Surbana Jurong provided the master planning and urban design inputs while the SMEC team delivered the detailed engineering design for infrastructure.

The work has also been reviewed in accordance with the Pearl Rating System, a green building rating scheme developed by the Abu Dhabi Urban Planning Council as part of their sustainable development initiative, Estidama.

BUILDING CLIMATE RESILIENCE IN TONGA

Climate Resilience Sector Project, Tonga

$5M
$5 Million Climate Change Trust Fund established

21
Automatic weather stations

1,400+
People received climate science training

An idyllic location comprising 170 South Pacific islands, Tonga is extremely vulnerable to the adverse effects of climate change and disasters because of its geographical, geological and socio-economic features.

Tonga's Climate Resilience Sector Project (CRSP) was an ambitious and vital project that aimed to mainstream climate resilience into government planning by focusing on the most vulnerable sectors and communities in the region. The project aimed to increase resilience in Tonga's economic, social, and natural eco-systems to climate variability, change and disaster risk.

Partnering for success

From March 2016, SMEC provided design, project management and procurement support and construction supervision to the Ministry of Meteorology, Energy Information, Disaster Management, Environment, Climate Change and Communication (MEIDECCC), and various project implementation units. This included environmental and social safeguards assessments; reconnaissance inspections, surveys and investigations; preparation of marine landings inventory; quality assurance and control; and program review and documentation.

The project's strategic approach was to build climate resilience through development planning, infrastructure investment and establishing a sustainable system to maintain the improvements and new systems. This included training for government agencies and residents, and the establishment of a sustainable funding mechanism to support ongoing community-based adaptation.

Delivering on community and environmental outcomes

Over three and a half years, SMEC worked collaboratively with stakeholders to ensure the project was successfully implemented, on time and within budget, and all defined outcomes were achieved by the end of 2019.

This comprehensive program has made a difference not just to institutional and government sectors but also in the areas of social development, capacity building, and women's empowerment.

Some of the key achievements are highlighted below

Ensure climate resilience is mainstreamed into development planning for key vulnerable sectors.

- Over 1,400 people attended climate science related training or courses (including approximately 50% participation rate by women). This includes 20 candidates (including 11 women) who graduated from 3-year undergraduate courses in climate science related subjects at the University of the South Pacific (USP), Tonga.
- Frameworks relating to climate change adaptation, disaster risk management and social vulnerability have been integrated into existing policies.
- Established a GIS system for monitoring mangrove habitats.

Improve capacity to monitor and manage Tonga climate data and information.

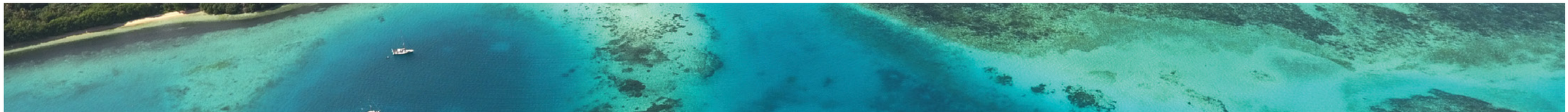
- Installed a meteorological monitoring system which includes 21 automatic weather stations, two permanent sea level stations, and wave level recording sites.

Establish a sustainable financing mechanism to support community-based climate change adaptation and responsive investments.

- A $5 million Climate Change Trust Fund (CCTF) has been established.
- Small-scale climate resilience projects and investments are also being financed for vulnerable communities.

Increase eco-system resilience and climate infrastructure investments.

- Seven Special Marine Management Areas (SMAs) have been established.
- Essential infrastructure including evacuation roads, a new hospital and seawalls have been constructed.
- Five schools have been climate proofed.



DIGITALLY MANAGING HIGHWAY ASSETS

Highway Asset Management, Pakistan

SMEC, through its subsidiary EGC, partnered with Pakistan's National Highway Authority (NHA) to conduct a geographic information system (GIS) survey and develop a geo-database covering the entire national highway network, which exceeds 12,000 km of roads.

The NHA was challenged by a lack of structured data, which presented serious issues in relation to decision-making and the integrity of operations and maintenance.

The project solution was delivered entirely in-house. After surveying and collecting differential GPS Field Data, photos and video for all assets, our specialists developed a central geo-database and a comprehensive Decision Support System (DSS). The first of its kind in Pakistan, this project has helped NHA to significantly improve its management of road assets while underpinning more strategic and informed decision making.

Pakistan's national highway network runs through beautiful regions that are attractive to the tourism industry. Having more accessible and structured data will enable NHA to identify revenue-generating assets and improve its financial sustainability by potentially attracting investment in road side facilities and resorts.

SUPPORTING HEALTHIER COMMUNITIES IN VICTORIA

Asset Management, Australia

Supporting the active and healthy lifestyles of its residents is a key priority for one of Victoria's largest municipalities. To ensure that their fast-growing community has accessible and well-maintained facilities, they have partnered with SMEC for the past five years to manage and maintain aquatic and leisure facilities and associated infrastructure.

SMEC's specialists are building a central database that provides full visibility of all municipal assets and captures data via mobile technology. We are also delivering a fully costed (1, 5, 10 and 20-year) capital investment program, and risk mitigating strategies.

This will enable our client to predictively monitor assets, schedule key maintenance, identify failures sooner to reduce expensive breakdowns, and have a more detailed and accurate view into maintenance costs.

Melton Highway
Australia

Gateway Upgrade North
Australia

SUSTAINABLE SOLUTIONS FOR AGRICULTURE

Agripower Amorphous Silica Fertiliser Production Plant, Australia

To meet growing demand for silicon fertiliser worldwide, Agripower Australia invested in a new $30 million amorphous silica processing granulation plant at Charters Towers, North Queensland.

SMEC provided electrical, instrument and control system engineering across the full project lifecycle, including commissioning. We collaborated closely with our client and partners to provide a fit-for-purpose design outcome on multiple process plant equipment packages.

The project was commissioned and began operating in July 2019, delivering over 200,000 tonnes per annum of high-quality silicon fertiliser to national and international markets. We are continuing our partnership with Agripower through ongoing technical support.

HOLISTIC APPROACH TO ASSET MANAGEMENT

Asset Management, City of Ekurhuleni, South Africa

With a large portfolio of fixed assets including property, land and infrastructure, the City of Ekurhuleni in South Africa needed a holistic solution to manage its fixed asset register and support prioritisation of funding and maintenance of essential services for its residents.

SMEC's specialist team of experienced engineers, accountants, data and GIS specialists collaborated to update and maintain the City's fixed asset register, creating a purpose-built system to track over one million asset components and 3,400 works in progress entries. We also reviewed and updated the City's asset management policies, strategies and plans for areas including roads and stormwater, water and sanitation, energy, operational buildings and community facilities.

Lastly, the City's employees were trained in how to maintain and update the asset register, improving operational performance and compliance.

THE BOARD

The SMEC Board is responsible for formulating SMEC's strategic direction and maintaining corporate governance.

Max Findlay

Chairman

Max was appointed Chairman of SMEC in 2016, after serving as Deputy Chairman since 2014, and Non-Executive Director since 2010. Max serves on the Boards of several organisations including the Royal Children's Hospital and listed company Skilled Group Ltd. Max holds a Bachelor of Economics (Politics) from Monash University and a Postgraduate Qualification in Accounting from Swinburne University. Max is a Fellow of the Australian Institute of Company Directors.

Wong Heang Fine

Group CEO, Surbana Jurong Group

Teo Eng Cheong

CEO International, Surbana Jurong Group

Hari Poologasundram

CEO SMEC & CEO International Surbana Jurong

Loh Yan Hui

CEO and Global Lead, Aviation, Surbana Jurong Group

Harpley – Larapinta Wetlands
Australia

"As part of the Surbana Jurong Group, we have access to a network of specialist companies providing expertise to complex projects worldwide. This means we're better placed than ever to tackle multifaceted challenges with connected solutions.

— Hari Poologasundram - CEO SMEC & CEO International Surbana Jurong

THE EXECUTIVE COMMITTEE

Hari Poologasundram

CEO SMEC & CEO International Surbana Jurong

Andy Atkin

Group Chief Financial Officer, Surbana Jurong Group

Angus Macpherson

Director of Operations

George Lasek

Chief Operating Officer, Americas

James Phillis

Chief Executive Officer, Australia and New Zealand

Dr Uma Maheswaran

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Tom Marshall

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Thomas Hynes

Chief Operating Officer, Asset Management

George Simic

Director, Growth, Mergers and Acquisitions

SURBANA JURONG GROUP

Combining the skills and experience from across the Surbana Jurong Group of companies, we have expanded our capabilities and reach, providing specialist expertise to complex projects worldwide, either independently or as combined entities.

Headquartered in Singapore, Surbana Jurong Private Limited provides complete consultancy solutions across the entire value chain of urban, industrial and infrastructure domains.

SMEC Holdings Limited is a progressive global company, delivering engineering excellence and design innovation on major physical and social infrastructure projects.

Robert Bird Group is a global structural, civil and construction engineering consultancy renowned for delivering iconic complex structural and development projects.

KTP Consultants Pte Limited is a leading multidisciplinary engineering firm with more than 40 years track record in engineering and project management.

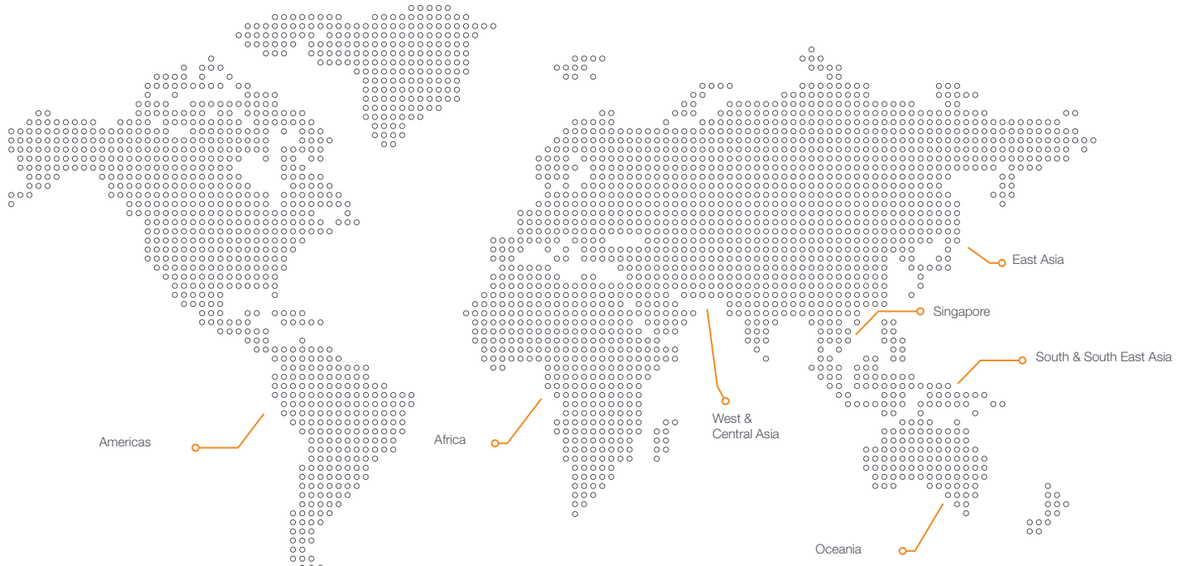
Sino-Sun Architects & Engineers Co. Limited is an award-winning multidisciplinary design institute specialising in architectural, planning, landscape and interior design.

AETOS Holdings Pte Limited is a leading safety and security solutions company, providing infrastructure protection, training and consultancy and security management.

B+H is a global, award-winning consulting + design solutions firm. Founded on a 65-year legacy of creating bold and inspiring spaces for people, B+H provides core architecture, interior design, planning, landscape, and strategic consulting services.

SAA is an award-winning architecture firm of more than 50 years which delivers comprehensive and diversified architectural services covering transportation (aviation, rail transit, maritime), mixed use, commercial (office, retail, hotel), healthcare, business park/industrial, residential, institutional and masterplan.

OUR GLOBAL FOOTPRINT



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South Sudan
Tanzania
Uganda
Zambia

East Asia

China
Hong Kong

West & Central Asia

Afghanistan
Georgia
Kazakhstan
Kuwait
Pakistan
Tajikistan
United Arab Emirates

South & Southeast Asia

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