



# Annual Review

2015 / 2016

Robinson Road Open Level  
Crossing Replacement  
Geebung, Queensland



# Contents

4	The Board's Message
5	The Board
6	The CEO's Message
7	The Executive Committee
8	SMEC & Surbana Jurong
10	Our Company
12	Our Financials
14	Awards & Rankings
16	Corporate Social Responsibility
18	Our People
20	Where We Operate
22	What We Do
24	Transport
26	Energy
28	Water
30	Environment
32	Built Environment
34	Education, Governance & Government Advisory
36	Resources & Industry

# The Board's Message

To our Clients and Employees,

The 2015-2016 financial year has been very positive for SMEC. The Company achieved strong financial results across all Divisions and continued to develop its growth strategy.

With the changing nature of our industry, SMEC recognised that to remain relevant we needed to grow, and to achieve this we required a strong partner. In May 2016, it was announced that the SMEC Board entered into an agreement with Surbana Jurong to acquire 100% of the SMEC Group, via the purchase of SMEC shares. In July 2016, SMEC Shareholders voted overwhelmingly in favor of the agreement, and SMEC officially joined Surbana Jurong.

Surbana Jurong is one of Asia's leading urban and infrastructure development consultancies, with a strong track record in shaping Singapore's urban and industrial landscape over the last 50 years. The Company provides urbanisation, infrastructure and engineering services to support sustainable social and economic growth for its clients.

Together, SMEC and Surbana Jurong will be a powerful force globally, with a workforce of over 13,000 people across 95 offices throughout Asia, Australasia, the Middle East, Africa, and North and South America.

This is a significant milestone in SMEC's history and one that presents many opportunities to further develop our people, better support our clients and significantly grow the business.

As part of our growth strategy, in June 2016, SMEC launched its first off-shore design centre in Bangalore, India. Operated by global engineering outsourcing consultant, Cyient, this development will support the Group's drive to offer more effective solutions in all our markets.

The Board wishes to thank Peter Busbridge for more than 40 years of service. Peter resigned as Chairman and Director of the SMEC Board in March 2016. Peter made an enormous contribution to SMEC, and his understanding of the business combined with his drive and energy will be greatly missed. It is thanks to Peter's astute leadership that SMEC is the highly regarded company it is today, having grown from 200 employees in the mid-1990s to more than 5,800 today.

Finally, The Board welcomes Max Findlay to the role of Chairman. Max joined the SMEC Board as a Non-Executive Director in 2010, and was appointed Deputy Chairman of SMEC in 2014.

We believe that Max's experience and expertise will provide strong leadership and guidance as SMEC moves forward into its next phase of growth.

**The Board, SMEC Holdings Limited**  
September 2016

## FY16 Highlights

Fee revenue increased by 7.1% to A\$390.6M

Substantial work-in-hand for FY16/17 and beyond

Surbana Jurong acquires 100% of SMEC shares

# The Board



**Max Findlay**  
Chairman  
*BEC, FAICD*

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.



**Alastair McKendrick**  
Group Finance Director  
*BSc(Eng)Mech, BCom(Hons)*

Alastair joined SMEC in 1999 and was appointed Group Finance Director in 2009. He was elected to the Board as an Executive Director in 2001. Alastair is experienced in the management of large organisations and consulting to small-to-medium sized organisations. For over 35 years, he has worked across a variety of industry sectors throughout Australia, Hong Kong, New Zealand and the United Kingdom. Alastair holds a Bachelor of Business (Accounting) from Monash University and is a Fellow of Certified Public Accountants Australia.



**Kate Spargo**  
Non-Executive Director  
*BA, LLB(Hons), FAICD*

Kate was appointed as a Non-Executive Director to the SMEC Board in 2010 and is Chair of the Audit and Risk Committee. Kate is currently Chairman of the Board of UGL Ltd, and is a Non-Executive Director on the Boards of Sonic Healthcare Ltd, Fletcher Building Ltd, Adairs Ltd, ColInvest Ltd and Sigma Pharmaceuticals Ltd. Kate holds a Bachelor of Law (Honours) and a Bachelor of Arts from Adelaide University. Kate is a Fellow of the Australian Institute of Company Directors.



**Andy Goodwin**  
Managing Director & CEO  
*BSc(Eng)Mech, BCom(Hons)*

Andy joined SMEC in 2012 and was appointed Managing Director and Chief Executive Officer in 2014, after serving as Chief Operating Officer South Asia and Middle East. Andy has over 30 years' engineering experience in South Africa, Europe and Asia in the energy and infrastructure sectors, and has led multidisciplinary teams in highly technical and complex environments. Andy holds a Bachelor of Science (Mechanical Engineering) from the University of Witwatersrand and a Bachelor of Commerce (Honours) from the University of South Africa.



**Roger Bayliss**  
Non-Executive Director  
*BSc, MRACI, FAICD*

Roger was appointed to the SMEC Board in 2002. He is a Non-Executive Director of SMEC, Chairman of the Remuneration Committee and Chairman of the SMEC Foundation Board. Roger's career has spanned 44 years and includes management, policy development, marketing and international trade and investment. Roger is a Chartered Chemist, a Member of the Royal Australian Chemical Institute and a Fellow of the Australian Institute of Company Directors. Roger holds a Bachelor of Science from Sydney University.

SMEC's Board of Directors are leaders in their field, and their expertise, skills and experience ensure the Company's sustained long term growth.



## The CEO's Message

I am delighted to provide this message at a very exciting and positive time in SMEC's history.

SMEC's recent partnership with Singapore based Surbana Jurong will accelerate our growth strategy and help us provide an improved service offering in the urban, industrial and infrastructure space. I believe this is an important and strategic move for SMEC and look forward to the Company's continued growth and success.

SMEC continued to grow steadily during the 2015-2016 financial year, maintaining our sound financial position, with revenue and other income increasing from A\$537.4M to A\$581.9M. These solid financial results represent continued progress towards our strategic goals and reflect management's focus on less profitable parts of the business.

The outlook for the 2016-2017 financial year is also very positive, with substantial work-in-hand across all Divisions.

At SMEC, we continually invest in programs which encourage personal development and I am pleased to advise that we have begun the roll out of our second Leadership Development Program (LDP). This Program aims to improve the leadership capability of employees, teams and the organisation as a whole, by providing face-to-face training, executive coaching, action-based learning techniques and the latest developments in leadership research and approaches.

We are also implementing an initiative to enhance and promote technical excellence and innovation

throughout the Company. This includes improving our technical leadership to drive innovation, cultivating a culture where people are encouraged to explore new ideas, and in turn, deliver better solutions to our clients.

It has been another great year for SMEC on the awards front. Once again we improved our rankings in Engineering News Record (ENR) Magazine's annual design lists. In Australia, SMEC received the Overall International Award at the 12th International Innovation Awards, which recognise innovative solutions in civil engineering, surveying and data management. SMEC was recognised for excellence at the Australia India Business Council Trade investment Awards, and received two high commendations at the 2015 Consult Australia Awards for Excellence. In Africa, SMEC was successful at the Construction Industry Business Excellence Awards, winning three awards.

With record work-in-hand, and a new partnership adding complementary skills, the outlook for SMEC over the coming years is very positive, and I look forward to this exciting period in our history.

**Andy Goodwin**  
Managing Director and Chief Executive Officer  
SMEC Holdings Limited

## The Executive Committee



**Andy Goodwin**

Managing Director & CEO  
*BSc(Eng)Mech, BCom(Hons)*

Andy joined SMEC in 2012 and was appointed Managing Director and Chief Executive Officer in 2014. Andy has over 30 years' experience leading multidisciplinary teams in technical and complex environments.



**Alastair McKendrick**

Group Finance Director  
*BBus(Acc), FCPA, MAICD*

Alastair joined SMEC in 1999 and was appointed Group Finance Director in 2009. Alastair has 35 years' experience in the management of large organisations and consulting to small-to-medium sized organisations.



**Neil Evans**

Director Strategy & New Business  
*BSc(Eng), AMP Harvard*

Neil joined SMEC in 1993 and was appointed Director Strategy & New Business in 2012. Neil has over 35 years' experience in the development, design and delivery of multidisciplinary infrastructure projects.



**John Stocco**

Chief Operating Officer Resources  
*BEng(Mech), CPEng, FIEAust*

John joined SMEC in 2014 as Chief Operating Officer of SMEC's Resources Division. John has over 30 years' experience in the mining and minerals processing sector with an emphasis on business strategy.



**Kalai Chelvan Arumugam**

Chief Operating Officer APAC  
*BEng(Civil), PE, DipFM, MIEM*

Kalai joined SMEC in 1993 and was appointed Chief Operating Officer Asia Pacific in 2014. Kalai has 30 years' engineering experience in the public and private sectors, and a strong background in project management.



**Angus Macpherson**

Director Corporate Affairs  
*BE(Civil), CPEng, MIEAust*

Angus joined SMEC in 1993, was appointed Director Corporate Affairs in 2010 and elected to the SMEC Foundation Board in 2015. Angus has over 20 years' experience in the management of large multidisciplinary projects.



**Hari Poologasundram**

Chief Operating Officer ANZ  
*BSc(Eng)Mech, BCom(Hons)*

Hari joined SMEC in 1994 and was appointed Chief Operating Officer Australia and New Zealand in 2012. Hari has 30 years' experience in the planning, design and management of complex infrastructure projects.



**George Lasek**

Chief Operating Officer SAME  
*BEng(Civil)*

George joined SMEC in 2011 and was appointed Chief Operating Officer South Asia Middle East in 2015. George has 30 years' experience operating at operational and strategic levels within large business environments.



**Tom Marshall**

Chief Operating Officer Africa  
*PrEng, BEng, MEng, DEng, MSAICE, FIOD*

Tom joined SMEC in 2012 as Chief Operating Officer Africa. Tom has over 30 years' experience in civil engineering, construction supervision and management of multidisciplinary teams throughout Southern Africa.



Our new partnership makes SMEC and Surbana Jurong one of the largest urban and infrastructure consulting companies in Asia.

## SMEC & Surbana Jurong

SMEC and Surbana Jurong have joined forces to provide global consultancy and engineering expertise in urban, infrastructure and management advisory.

With improved global expertise and local knowledge, our new partnership ensures we continue to deliver excellence across major infrastructure projects and also offer consultancy services in township and industrial development, master planning, facilities management and smart city projects.

Both companies share complementary strengths and a rich and proud heritage of iconic projects.

Working together, SMEC and Surbana Jurong will help to deliver a better future for our clients and communities around the world.

### About Surbana Jurong

Headquartered in Singapore, Surbana Jurong provides consultancy solutions across the entire value chain of urbanisation, industrialisation and infrastructure domains.

The Company offers architecture, engineering, project and construction management, infrastructure, urban planning and smart city services, and has a distinguished track record in shaping Singapore's landscape over the last 50 years.

Surbana Jurong has designed and completed more than one million homes in Singapore, completed master plans for over 30 countries and has developed more than 50 industrial parks around the world.

The Company has received over 600 international and local awards and has a proud history of successfully exceeding clients' expectations.



**Amaravati Master Plan, India**

Andhra Pradesh, a state in South India, is building a new Capital City, Amaravati, located between Vijayawada and Guntur. Surbana Jurong is the lead consultant, providing planning, urban design, infrastructure and industrial estate planning, and undertaking economic studies. Surbana Jurong created master plans for the capital region, capital city and a seed development master plan to attract investments. The master plan guides Amaravati city's development in Andhra Pradesh until 2050.



**Suzhou Industrial Park, China**

Suzhou Industrial Park is a 7,000 hectare industrial development supported by housing, community, recreational and educational facilities. Surbana Jurong developed the master plan for phases 1, 2 and 3 of the project and provided project management services for all phases. The development has an integrated work-live-learn-play concept, and comprises a number of functional areas including an export processing zone, international science park, education district and logistics centre.

Technical excellence and innovation are key focus areas. We are constantly evolving: in our thinking, our approach, our technologies and our systems.

# Our Company

SMEC has a rich history, dating back to the iconic Snowy Mountains Hydroelectric Scheme in 1949. Recognised as a marvel of engineering, the Scheme has been added to Australia's National Heritage List, cementing its place in history.

SMEC has grown into a progressive global company, delivering engineering excellence and design innovation to clients worldwide.

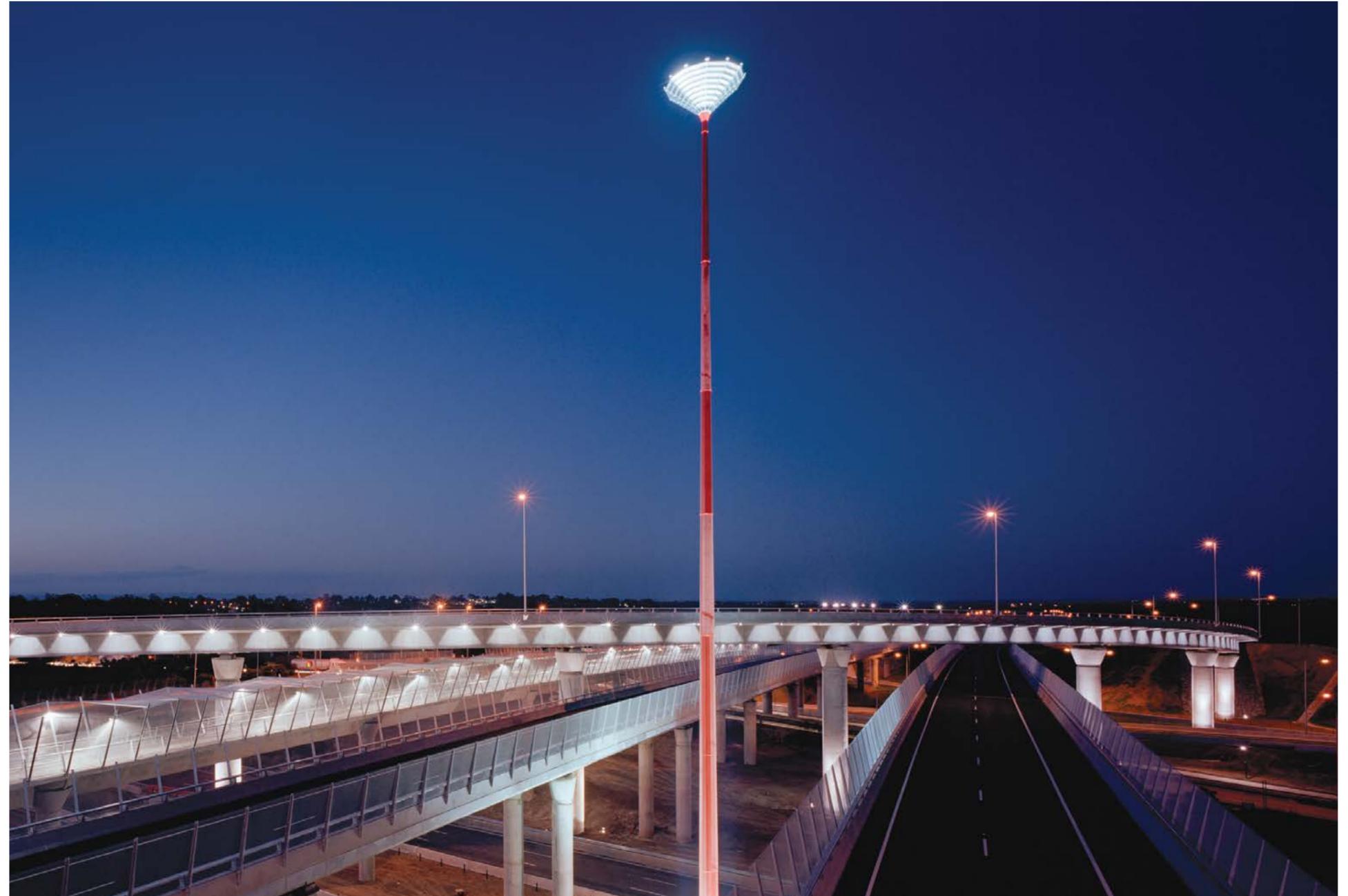
We provide consulting expertise across a range of industry sectors, and have developed and refined a core service offering to cover the life of a project, from concept to completion.

Our integrated services contribute to national development in some of the world's fastest growing economies, and since our formation, we have delivered thousands of projects in over 100 countries.

We align technical expertise with local knowledge to deliver cost effective, practical and sustainable project outcomes.

With over 5,800 people working in over 40 countries, SMEC is a truly diverse company. Leaders in their field, our people see things differently, they collaborate and embrace new technologies and systems. By combining our in-house expertise with state-of-the-art systems, we strive to provide innovation and ingenuity on all projects.

Growth continues to be a strategic priority for the Company, and we continually look to enter new markets and broaden our service offering. Having recently joined forces with Surbana Jurong, we have strengthened our technical functions and service offerings and are excited to offer an enhanced lifecycle of services in the urban, industrial and infrastructure space.



Westlink M7 Motorway  
Sydney, New South Wales

A\$581.8M  
Revenue & Other Income

A\$334.2M  
Total Assets

A\$390.6M  
Fee Revenue



**West End Brewery**  
Thebarton, South Australia

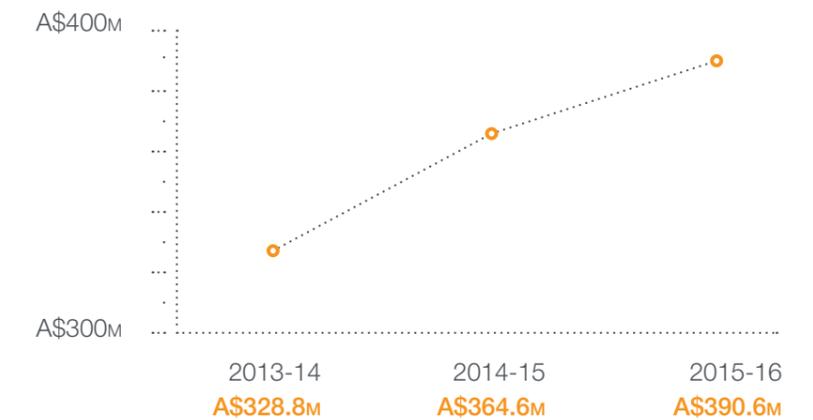
## Our Financials

SMEC continued to grow steadily during the 2015-2016 financial year, with fee revenue increasing from A\$364.6M to A\$390.6M.

Our financial performance is the result of our continued focus on growth as a strategic priority, a significant increase in infrastructure development around the world, and a strong focus on previously less profitable parts of the business.

The outlook for the 2016-2017 financial year is very positive, with substantial work-in-hand. These solid financial results represent continued progress towards our strategic goals and we are now in a better position for growth than ever before.

### Fee Revenue



SMEC is responsive and flexible to clients' changing needs, and strives to build sustainable client relationships through integrity and trust.

# Awards & Rankings

## Increased ENR Global Design Firm Rankings

SMEC has increased its ranking in Engineering News Record (ENR) Magazine's annual design lists. SMEC ranked at number 48 in the '2016 Top 225 International Design Firms' list, up three places, and at number 69 in the '2016 Top 150 Global Design Firms' an increase of seven places.

## Excellence at Australia India Business Council Awards

In May 2016, SMEC was recognised for Excellence in the Services Sector at the Australia India Business Council Trade Investment Awards. These awards recognise the achievements of businesses and individuals that have made significant contributions to progress trade and investment between Australia and India.

## Success at Construction Industry Business Excellence Awards

SMEC South Africa was awarded three Diamond Arrow Awards (highest rated) in the categories: Civil Consulting Engineers; Structural Consulting Engineers; and Combined Civil & Structural Consulting Engineer at the Construction Industry Business Excellence Awards, Africa. These awards are based on market research results from within different industries.

## Recognised at Consult Australia Awards

SMEC received two high commendations at the 2015 Consult Australia Awards for Excellence. The Go Alliance Robinson Road Level Crossing Replacement Project received a high commendation for collaboration, while the Queensland Urban Utilities Preliminary Condition Assessment of Water Reservoirs was commended for technological innovation.



Bakun Hydroelectric Project  
Malaysia

# Corporate Social Responsibility

People, Community, and Sustainability and Environment are the key focus areas of SMEC's Corporate Social Responsibility (CSR) framework.



SMEC helps develop sustainable communities and supports charitable programs that provide long-term social and economic improvements.

SMEC has set a number of objectives against our key focus areas. We report our progress on these objectives in our annual Sustainability Report. This Report was submitted to the United Nations Global Compact in April 2016.

In September 2016, SMEC CEO Andy Goodwin, signed the CEO Statement of Support for the United Nations (UN) Global Compact Sustainable Development Goals (SDGs). These goals provide an ambitious path to transform our world over the next 15 years, by putting an end to extreme poverty, fighting inequality and injustice, and protecting our planet. SMEC already contributes to the SDG agenda in many ways and has integrated these goals into our business and annual reporting.

SMEC is committed to embedding a culture of sustainability and environmental awareness in all functional, operational and regional areas of the business. We are committed to operating in a manner which promotes community engagement and sustainability, and engage in community development through The SMEC Foundation.

## The SMEC Foundation

The SMEC Foundation is a core part of our CSR Program, and helps fulfil our commitment to community development and poverty reduction.

This year we continued to engage in development programs in communities where SMEC employees live and work, with donations made to: Habitat for Humanity Australia's Emergency Relief Program to support the victims of Cyclone Winston in Fiji; the 'So They Can' Holding Hands Children's Home project in Kenya; and education programs in the Philippines, administered by the Australian Foundation for Fostering Learning in the Philippines.

## 'So They Can' Kenya

'So They Can' (STC) works with local communities in Kenya to permanently break the poverty cycle through education. The SMEC Foundation presented STC with A\$30,000 to help support the 'Holding Hands Children's Homes' project, which provides a safe home and quality education for more than 120 children. In addition to financial support, employees from SMEC's Nairobi office generously donated their time and professional skills to assist STC's community projects in Nakuru, Kenya.

## Fostering Learning in the Philippines

The Australian Foundation for Fostering Learning in the Philippines (AFFLIP) is a not for profit Foundation that contributes to the educational development of young people living in some of the poorest areas of the Philippines. At present its work is located in Mindanao in the Southern Philippines. The SMEC Foundation provided a grant of A\$15,600 for the Mindanao Health and Nutrition Project, which addresses the needs of malnourished students. These funds will help schools to establish vegetable gardens and ponds to sustain school feeding programs.

The SMEC culture is evident in our people, our values and the way we work. We prioritise diversity, promote an inclusive workplace and encourage personal development.

# Our People

SMEC is a Company that makes a positive impact on the world and our people are a key part of that. Throughout the year, SMEC employees participated in a number of inspiring activities, underpinning our commitment to personal, professional and community development.



## 2016 Vinnie's Sleepout

Thomas Hynes, COO SMEC Asset Management-Australia and Asia, participated in the 2016 Vinnie's Sleepout in Melbourne. Tom was one of 200 business and community leaders who slept outdoors for this charity event. This national event raises much needed funds with the aim of permanently breaking the cycle of homelessness.

## Nepal Charity Run

David Ingham, Team Leader, Nepal, took part in a 140 km charity run to raise funds to help rebuild the Gauri Shankar Orphanage, damaged in the April 2015 Nepal earthquake. This fundraising effort will help rebuild the orphanage with earthquake resistant materials.

## SMEC Management Build Bikes for Children in Need

In November 2015, over 60 of SMEC's senior managers from across the Company gathered in Brisbane to participate in a team building activity, as part of a Senior Management Conference. This resulted in teams building bicycles and donating them to Camp Quality, a charity who supports children (and their siblings) living with cancer.

## SMEC Sponsors World Championship Competitor

David Lamley, Technologist, represented South Africa at the 2016 International Triathlon Union Duathlon World Championships in Spain. SMEC South Africa, in keeping with the Company's commitment to support their employees, did not hesitate to help David realise his ambitions and sponsored his trip to compete in the event.

## ECO-Mobility Month

In October 2015, SMEC's Johannesburg office participated in Eco-Mobility Month, an initiative designed by the City of Johannesburg to help reduce traffic congestion and pollution by encouraging alternative modes of transport.

## Women in Business Forum

Employees from SMEC's Manila office attended the 'Women in Business Forum: Lessons from Philippines to Australia'. The Forum was an opportunity to discuss initiatives that shape women's participation in the advancement of business in Asia Pacific. SMEC is committed to promoting engineering to women through active industry participation.

## Women in Engineering Network Launch

In celebration of International Women's Day, SMEC Bangladesh and Associated Consulting Engineers (a SMEC subsidiary), launched a Women in Engineering Network to enhance the professional growth of women through clear career mapping and help attract and retain female employees.

## SMEC Participates in Africa Engineering Week

SMEC's Durban office participated in the Africa Engineering Week (AEW) Conference at the Mangosuthu University of Technology in Durban. This event helps to increase the visibility of engineering and its role in sustainable development through educational workshops, public awareness campaigns, mentoring activities and university events.

# Where We Operate

SMEC is a diverse and progressive company, with over 5,800 people working within a network of more than 80 offices across Asia, Africa, Australasia and North and South America.



## Asia

- Afghanistan
- Azerbaijan
- Bangladesh
- Bhutan
- Brunei
- Cambodia
- China
- Hong Kong
- India
- Indonesia
- Kazakhstan
- Kuwait
- Kyrgyzstan
- Laos
- Macau
- Malaysia
- Mongolia
- Myanmar
- Nepal
- Pakistan
- Philippines
- Qatar
- Singapore
- Sri Lanka
- Tajikistan
- Timor-Leste
- United Arab Emirates
- Uzbekistan
- Vietnam

## Africa

- Angola
- Botswana
- Ethiopia
- Ghana
- Kenya
- Lesotho
- Liberia
- Madagascar
- Malawi
- Mauritius
- Morocco
- Mozambique
- Namibia
- Nigeria
- Rwanda
- Seychelles
- Sierra Leone
- South Africa
- South Sudan
- Swaziland
- Tanzania
- Uganda
- Zambia
- Zimbabwe

## Australasia

- Australia
- Fiji
- Kiribati
- New Zealand
- Papua New Guinea
- Samoa
- Solomon Islands
- Tonga
- Vanuatu

## The Americas

- Canada
- Chile
- Mexico
- United States

**5,800+**  
Employees

**40+**  
Countries

**80+**  
Offices

**3,275+**  
Active Projects

# What We Do

Regardless of size, location or complexity, SMEC is recognised for providing engineering excellence on all projects.

From concept to completion, our core service offering, covers the lifecycle of a project, and maximises value to our clients.

We align technical expertise with local knowledge and state-of-the-art processes and systems to deliver innovative solutions to a range of industry sectors.

“ SMEC has been a major contributor in achieving important project milestones. ”

- Kafue Gorge Lower Power Development Corporation, Africa

# Transport

SMEC manages all aspects of transport engineering in diverse environments and provides innovative solutions for transport infrastructure projects.

Recognised as one of the world's leading transport consultants, our experience includes:

- Road and rail
- Bridges and structures
- Ports and airports
- Traffic and transport planning
- Intelligent transport systems
- Public transport advisory
- Pavement management systems
- Tunnels and geotechnics

We provide investigations, feasibility studies, traffic planning, transport engineering, road and bridge design, construction supervision and maintenance and asset management services for complex transport infrastructure projects.

By partnering with our clients and organisations, we strive to deliver excellence across the lifecycle of a transport project, regardless of complexity or location.

“ SMEC addressed project challenges with a proactive, solution focused approach, resulting in a productive working relationship. ”

- Transport Projects Division, Transport for NSW, Australia



## Sydney Metro NorthWest (OTS)

The \$8.3 billion Sydney Metro Northwest, formerly known as the North West Rail Link, is the first stage of Sydney Metro, Australia's largest public transport project.

The Northwest Rapid Transit consortium (NRT) is delivering eight new railway stations, 23 km of new track, 4,000 commuter parking spaces and a new generation of safe, reliable and fully automated metro trains. The project also includes converting the existing Epping to Chatswood rail line to metro status.

The project is being delivered in three major contracts: Tunnels and Station Civil Works; Surface and Viaduct Civil Works; and Operations, Trains and Systems (OTS).

The OTS package is the largest of the three contracts and comprises: the design, construction and commissioning of rail infrastructure (including underground, open-cut and elevated stations at eight locations, a Sydney Metro train facility, and all associated track, overhead wire structures and combined services routes); procurement of rolling stock; operation and maintenance; and financing.

SMEC was engaged in association with Mott MacDonald and KBR as the Design Joint Venture (DJV) for the OTS contract. The DJV is providing civil engineering, structural, mechanical, electrical and public utility services.



## Great East Road, Zambia

The Great East Road is a 360 km highway linking Zambia's Eastern Province with the rest of the country. Zambia, a land-locked nation, relies on the Great East Road to carry transit vehicles through the Nacala Corridor, a regional transport corridor linking Malawi and Zambia to the Port of Nacala in Mozambique.

Constructed almost 40 years ago, the highway was near the end of its design life and did not comply with current design requirements.



## North-South Commuter Rail, Philippines

The North South Commuter Railway (NSCR) Project (Malolos to Tutuban) is a 37 km long railway line connecting Malolos in the Province of Bulacan to Tutuban in Manila.

The NSCR is part of a response by the Government of the Philippines to expand mass transportation and alleviate traffic congestion in Manila, and comprises: 30 km of viaduct/bridges; a 7 km long elevated embankment; 10 rail stations; and an operations control centre.

SMEC, as part of a joint venture, led by Oriental Consultants Global Company Limited, is providing basic and detailed design of civil works.

SMEC was engaged by the Government of Zambia's Road Development Agency (RDA) to provide design review and supervision services for the rehabilitation of Section 2 of the Great East Road covering 115 km from Nyimba to Sinda.

Project scope of works included: road widening; construction of a new two-lane single carriageway; replacement of two river crossing bridges; rehabilitation of one river crossing bridge; replacement of drainage culverts; and 10 km of subsoil drainage.



## Moghbazar-Mouchak Flyover, Bangladesh

To improve transport infrastructure and reduce traffic congestion in Dhaka Metropolitan area, the Government of Bangladesh identified the need for the construction of flyovers and interchanges in Dhaka.

The construction of the 9 km Moghbazar-Mouchak flyover is part of this scheme. Constructed in three parts, the flyover crosses one of the major rail intersections in Dhaka helping to facilitate north-south traffic movement.

SMEC, is providing detailed engineering design review, traffic survey and traffic impact studies, contract administration and construction supervision.

# Energy

SMEC offers specialist services for the development of hydropower and energy infrastructure and associated networks, worldwide.

Our project experience extends from upgrades on existing infrastructure to design and construction services on new networks.

Our technical capabilities cover the fields of:

- Hydropower
- Renewable energy
- Dams
- Transmission and distribution
- Thermal and geothermal
- Tunnels and geotechnics
- Regulatory market advice

We provide advice, strategy development and support during all phases of a project, helping to maximise productivity while balancing performance, safety, ease of operation and output.



## Uttarakhand Power Sector Investment Program, India

The aim of this Asian Development Bank (ADB) funded project is to improve power generating facilities and increase transmission expansion in order to meet the State's growing demand for electricity supply. This project will also ensure environmental and social safeguards are implemented, as per Environmental Management Plans.

The project comprises the construction of four small hydropower projects, three 400 kV transmission lines, two 220 kV transmission lines and two 400 kV substations.

SMEC is responsible for all consulting activities, including: specialist engineering advice on geotechnical aspects, hydrology and hydraulics for the hydropower projects; assistance with implementation of environmental and social safeguards in accordance with the Environmental Management Plan (EMP), Resettlement Framework (RF), Resettlement Plan (RP) and Indigenous People Framework.

SMEC is also reviewing the technical specifications for the 400/220 kV transmission lines and substations, providing supervision of pre-commissioning and commissioning of the transmission lines and substations, and project monitoring of the hydropower projects.



## Thwake Dam, Kenya

SMEC is providing design and construction supervision services on Thwake Dam as part of the Thwake Multipurpose Water Development Program in Kenya. The Program comprises a dam for water supply, hydropower generation and irrigation development.

Kenya is classified as a water scarce country. Currently, there is no existing hydropower generation station within the Athi River Basin, where the Program is located.

The overall objective of the project is to increase water security by providing water storage for power generation, residential consumption, irrigation, and drought mitigation.

Project works will be completed over four phases, and comprise: the development of a 1.5 km long, 77 m high concrete faced rockfill dam; a 60 m high intake tower; a 900 m long concrete spillway; an emergency fuse plug spillway; access roads; and minor works.

SMEC will design the dam, powerhouse, substation and power transmission main, and provide construction supervision services.

Upon completion, Thwake Dam will generate 18 MW of power which will be exported to the national grid for countrywide distribution.



## Photovoltaic Power Station, Australia

Normanton 5 MW Solar Photovoltaic Power Station is the first stage in a proposed portfolio of power generation projects that aim to reduce transmission line energy losses and facilitate additional capacity in regional Queensland.

SMEC is providing community consultation, design and engineering services, including: environmental, social and economic assessments; concept design; detailed design of electrical, civil, structural and geotechnical elements; geotechnical and electrical testing; electrical grid assessments; and project management.



## Kerian Hydroelectric Project, Malaysia

The Kerian Hydroelectric Project consists of two interconnected schemes, namely Bintang and Kerian.

The Bintang Powerhouse comprises two 4 MW capacity Pelton turbine units. The Kerian Powerhouse comprises two 3.5 MW capacity Turgo turbine units. Combined, both schemes will generate a total capacity of 14 MW, and will help to increase the total hydropower capacity of Peninsular Malaysia. SMEC is providing engineering consultancy services covering civil, structural, mechanical and electrical works.

“The excellent services provided by SMEC have helped in significant time and cost savings for this very challenging hydropower project.”

- Patel Engineering Ltd., India

# Water

Our experience within the water sector ranges from the management of community based water supply schemes, through to the development of major water treatment facilities.

SMEC is recognised for delivering sustainable water solutions across every aspect of the water cycle:

- Water resources
- Water supply and wastewater
- Stormwater management
- River structures
- Dams
- Irrigation
- Hydrogeology
- Water utility management
- Water sensitive urban design

We provide expert knowledge in water infrastructure, and continually invest in research, development and new technology to enhance our service offering and provide an improved water supply to communities around the world.

“ It was through SMEC’s excellent project management and construction innovation that the project team accomplished key milestones. ”

- Punjab Irrigation Department, Pakistan



## Northern Collector Tunnel, Kenya

In line with Kenya’s National Development Plan, Vision 2030, the Government of Kenya prioritised the improvement of water services in Nairobi City and the surrounding areas. One of the ways identified to improve the water services in these areas was the construction of the Northern Collector Tunnel.

The Northern Collector Tunnel is part of a master plan development strategy for new water sources for Nairobi and 13 satellite towns up to the year 2035. The project includes the construction of a 12 km long water transfer tunnel to intercept three rivers north of Nairobi and transfer the intercepted water to the Thika Dam, the main water source for Nairobi.

The project, undertaken in two phases, includes: a 12 km long bulk water transfer tunnel from Maragua, Gikigie and Irati rivers; three run-of-river intake weirs with an outlet to Thika Dam; associate stilling and de-silting basins; fish ladders at Maragua, Gikigie and Irati Rivers; and an outtake sluice and stilling basin at Githika Outfall.

Athi Water Service Board engaged SMEC to complete detailed design and tender documentation under Phase I, and construction supervision under Phase II. SMEC’s scope of work includes detailed design, preparation of tender documents, project monitoring and construction supervision.



## Buso River Bridge, Papua New Guinea

Following severe damage to the existing Buso River Bridge during major flooding, the Department of Works proposed the design and construction of a new river crossing.

SMEC was engaged to undertake hydrologic and hydraulic investigations of the Buso River in order to identify site options and provide data for the design of a new bridge.

Designed and constructed to withstand flood waters, the new bridge will comprise a multi-span structure with

intermediate piers, and will provide essential access to services for communities on both sides of the river.

SMEC’s consultancy services include: determining the catchment area; assessing rainfall intensities and flood levels; identifying the susceptibility of riverbanks to erosion; recommending appropriate upstream and downstream river training works; and preparing a report outlining the results and recommendations of the investigations.



## Isabella Weir, Australia

Located in Canberra, Isabella Weir is a low-built earthen dam that regulates the flow of water to Lake Tuggeranong and acts as a flood control structure for water levels within the urban area.

The weir requires upgrading to achieve an acceptable flood capacity, ensure safe and predictable flood levels and secure compliance with Australian National Committee on Large Dams (ANCOLD) safety guidelines.

SMEC was engaged to provide hydraulic validation modelling for the upgrade works, using Computational Fluid Dynamics (CFD) methods. This modelling will ensure the upgrade designs comply with ANCOLD guidelines.



## Karnataka Water Resources, India

The Karnataka Integrated and Sustainable Water Resources Management Investment Program aims to modernise irrigation system infrastructure and improve the implementation of program management systems in Karnataka, a state in southwest India.

SMEC is providing consultancy support services on Tranche 1 and Tranche 2 of the Program.

SMEC’s scope of work includes technical support for the coordination, implementation, capacity building and financial management of the Gondi Irrigation Canal System modernisation, and the implementation of Tungabhadra Left Bank Canal and Vijayanagara Canals subprojects.

# Environment

SMEC provides environmentally sustainable services for infrastructure projects around the world.

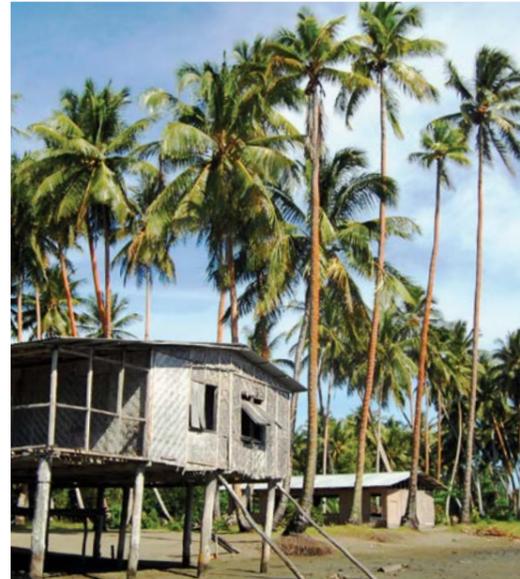
Our technical knowledge and expertise ensures the highest standard of care and advice in protecting the environment, and balances the needs of the community, the environment and economic viability.

We provide a broad range of environmental services, both independently, and in conjunction with other disciplines.

Our specialised environmental capabilities include:

- Sustainability
- Environmental planning and assessment
- Land use, coastal and waste management
- Contamination
- Natural resource management
- Communications and stakeholder engagement

We understand the importance of the environment, and are committed to developing quality environmental outcomes across all projects. We work closely with clients and communities to ensure the preservation of natural environments during every stage of a project.



## Climate Resilience, Tonga

The Climate Resilience Sector Project (CRSP) aims to mainstream climate resilience into government planning and focuses on the most vulnerable sectors and communities in Tonga.

In recent years, Tonga has observed a high level of rainfall causing localised flooding. It has been identified that all key sectors in Tonga face environmental, economic, and social consequences, due to climate change, with particular concerns for water supply, agricultural and coastal infrastructure.

The Government of Tonga has identified the need for integration of climate change adaptation and disaster risk management to deal with climate-induced natural disasters.

SMEC is providing design, project management and procurement support and construction supervision services to the Ministry of Meteorology, Energy Information, Disaster Management, Environment, Climate Change and Communication (MEIDECCC), and the Climate Change division.

SMEC's services include, but are not limited to: reviewing existing reports and design documents; environmental and social safeguards assessments; and monitoring of environmental and social impact activities.

Ultimately, this project will help to improve resilience to climate change and disaster risk in the island nation.



## Diamphwe Dam Environmental and Social Impact Assessment, Malawi

Studies recommended the construction of a multipurpose dam on the Diamphwe River to provide a new water source for Lilongwe and the surrounding areas, covering an area of approximately 700 km<sup>2</sup>.

The Diamphwe Multipurpose Dam aims to secure and improve water supply in the region until 2035, and support large-scale irrigation and agriculture, fish farming and livestock production.

Project works include the construction of a 25 m high roller-compacted concrete dam with a storage capacity of 150,000 m<sup>3</sup>, water supply and irrigation intakes, 80 km of pipeline and a 1,000 hectare irrigation scheme.

SMEC was engaged to undertake an Independent Environmental and Social Impact Assessment (ESIA) of the Diamphwe Dam and associated structures, including: the conveyance main to the treatment works; water treatment works, balancing tank and pipeline to Lilongwe City; temporary construction sites; and borrow pits.

The ESIA comprised an Environmental and Social Management Plan (ESMP), an Environmental Monitoring Plan (EMP), a Resettlement Action Plan (RAP), and the development of Bills of Materials (BOQ) for environmental monitoring, mitigation and impact management.



## Northern Beaches Hospital, Australia

Northern Beaches Hospital will be a world-class health care facility, providing surgical, medical, paediatric and maternity services, as well as a large emergency department.

To support the operation of the new hospital, the upgrade of the surrounding road network needs to be completed by the time the hospital opens in 2018.

SMEC was engaged by Health Infrastructure (the New South Wales Government Department responsible for the

development of the hospital) to act as its technical advisor on planning and environmental issues.

SMEC was subsequently engaged to prepare Environmental Impact Statements (EIS) covering stages of the hospital development and the road works required to provide connectivity to the proposed hospital and enhancements on the surrounding road network along Warringah Road and adjacent arterial roads in the area.

“SMEC helped us identify, evaluate and control environmental issues in a professional manner, and continually improve our environmental performance.”

- K. Wah Construction Materials, Hong Kong

# Built Environment

SMEC provides integrated architectural, engineering and project management services to plan, design, construct and manage built environment projects.

Our expertise covers the fields of:

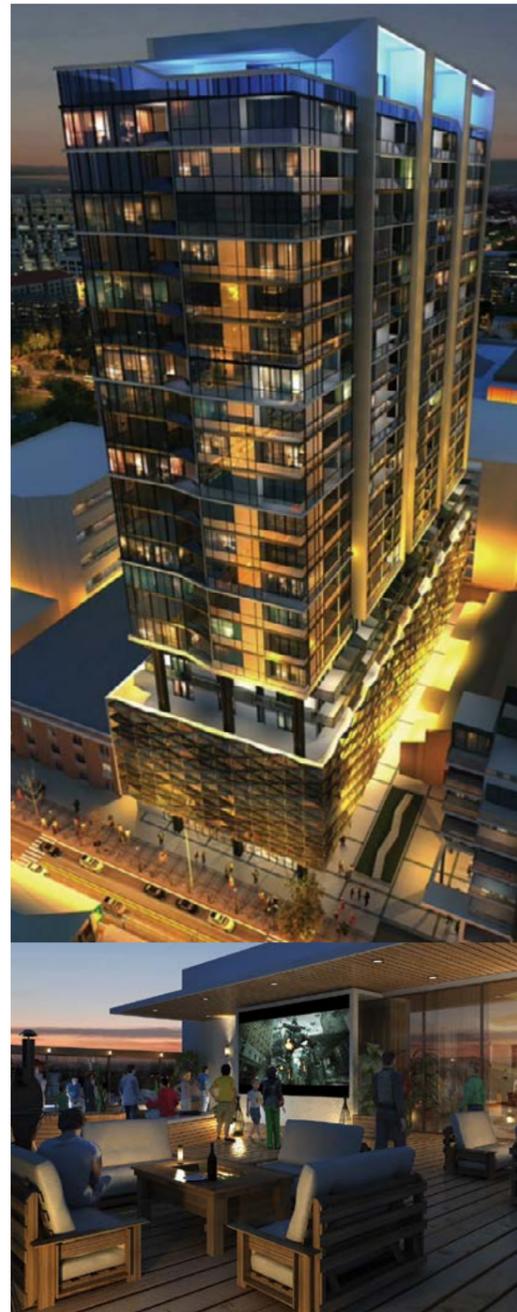
- Buildings and building services
- Urban development, renewal, planning and design
- Surveying and master planning
- Urban engineering
- Landscape architecture
- Water sensitive urban design
- Traffic and transport planning

Our experience encompasses residential communities, mixed use developments and industrial precincts for both the public and private sectors.

With a reputation for design quality, functional efficiency, ecological awareness and community engagement, we provide innovative and elegant design solutions that help shape cities for future generations.

“ SMEC has provided support on a number of town planning board applications covering a wide range of developments, and their proactive approach has helped us secure successful outcomes on a number of cases. ”

- Townland Consultants Ltd, Hong Kong



## U2 on Waymouth, Australia

Located in Adelaide, U2 on Waymouth is a 25-storey mixed-use development comprising 255 residential apartments, a rooftop residents area, commercial units and parking spaces. At over 78 m high, U2 on Waymouth will be a dominant part of the Adelaide skyline, standing as one of the city's tallest buildings.

SMEC was engaged by Runtong, a subsidiary of Datong Development and Investment Group to undertake the design of this project, with a short program of 39 days.



Photo: Jamie Thom

## Department of Statistics, South Africa

Located in Pretoria, this project comprised a new head office for the Department of Statistics South Africa.

The scope of work included the construction of a main office building, data processing centre and child care centre, and the refurbishment of the historic NZASM village.

SMEC conducted a feasibility study for the procurement of serviced accommodation by means of a Public Private Partnership (PPP). SMEC provided bid management and tender evaluation, and was subsequently engaged as Technical Advisor for the development phase, which included monitoring technical compliance and quality audits.



## Townsville Waterfront, Australia

Townsville Waterfront is a significant urban renewal project that will help to transform Townsville's inner-city into a world-class lifestyle precinct, and provide the first step in the revitalisation of the waterfront and inner-city areas.

SMEC, as Principal Consultant, is providing design services for Stage 1A of the project. The design will include new paths and access ramps, boardwalks and platforms over the water, lighting and signage, reopening of the access under George Roberts Bridge, resurfacing and extension to existing walkways, and upgrading existing structures.



## Sapphire Broadwater Development, Australia

SMEC completed landscape design and documentation services for the Sapphire Broadwater Development, located in Labrador on the Gold Coast in Queensland.

The Development comprises a high rise residential tower incorporating 77 residential units, a residents lounge, pool and spa area, and integrated landscaped surrounds.

SMEC's scope of work included: concept and operational works planning for stage two of the project; landscape design incorporating softscape and streetscape planting; and hardscape design to include footpaths, access ramps and pathways.



## Syferfontein Megacity, South Africa

The development of the Syferfontein Megacity in Gauteng is part of a five year plan by the Gauteng Department of Human Settlements to transform urban planning and coordinate housing developments. This plan will deliver integrated residential, healthcare, education, recreation, retail, commercial and public transport facilities.

SMEC was engaged to complete a comprehensive project evaluation, and provide project management and civil, electrical, transportation and geotechnical engineering services for the Syferfontein Megacity development.

# Education, Governance & Government Advisory

SMEC's education, governance and government advisory services generate economic wealth, contribute to national development and improve the quality of life within local communities.

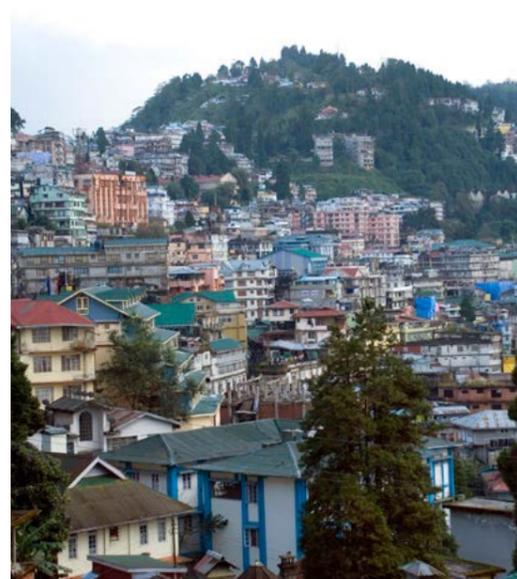
Our services extend across the fields of:

- Community development
- Education and training
- Gender development
- Public sector reform
- Finance and economic development
- Governance and institutional strengthening
- Local government
- Health

Through our global network, we develop partnership strategies to ensure projects are manageable and sustainable. We liaise with community-based organisations, non-government organisations and government departments, to deliver the best possible outcome on social development projects.

“ SMEC's ongoing contribution to the project ensures an enduring benefit to the municipalities. ”

- Local Government Engineering Department, Bangladesh



## Urban Governance & Infrastructure Improvement, Bangladesh

The Third Urban Governance and Infrastructure Improvement Project (UGIIP-III) is a government initiative, funded by the Asian Development Bank (ADB), which supports urban development, economic growth and governance in 30 pourashavas (municipalities) across Bangladesh.

This project aims to improve living standards and reduce poverty in these areas, develop urban infrastructure and strengthen local delivery of municipal services. The project will also address capacity development and gender equity, in line with the Bangladesh Country Partnership Strategy (CPS).

SMEC, as part of a consortium, is providing consultancy services to assist the Local Government Engineering Department (LGED) in project management, engineering design, bid management, construction supervision and environmental management services.

SMEC is also responsible for rehabilitation and resettlement, including community awareness and participation, social inclusion, gender equality and management of archeologically sensitive areas.

The successful completion of this project will ensure improved living conditions, municipal service delivery and urban governance in the project municipalities.



## Australia Indonesia Partnership for Economic Governance, Indonesia

The Australia Indonesia Partnership for Economic Governance (AIPEG) is a joint Government of Indonesia and Government of Australia program, with the objective of strengthening economic governance and improving economic competitiveness in Indonesia.

AIPEG supports the Government of Indonesia's economic management agencies in the promotion of economic growth and stability.

Key focus areas of the Partnership include market competitiveness and efficiency, financial stability, efficient use of public resources, improving the business climate through administrative reform and the strengthening of government to government partnerships.

AIPEG was established in 2009. SMEC has managed the program since 2014 and has subsequently been engaged as Managing Contractor until 2017.



## Henbury School, Australia

Located in Darwin, Henbury School is a second level school for children with varied physical and learning abilities. SMEC was engaged by Halikos Group to complete the landscape design for the external classrooms and play areas throughout the new school grounds.

As an initiative to promote and support Indigenous engagement in construction, SMEC and Halikos collaborated with the Larrakia Development Corporation (LDC) to implement the landscape works. The Larrakia are the traditional owners of the lands and waters in and surrounding Darwin.

SMEC worked with Indigenous employees, helping them gain an understanding on the professional techniques required for the implementation of the landscape works.



## Skills Development Project, Malawi

The Government of Malawi is implementing a Skills Development Project (SDP) to help address gaps in Malawi's education sector. This project will help to develop a highly skilled workforce through the implementation of accessible, results orientated education institutions, and enable selected tertiary educational institutions to invest in essential infrastructure for skills development.

The project will also strengthen capacities of the Ministry of Education, Science and Technology (MoEST), National Council for Higher Education (NCHE) and the Technical, Entrepreneurship and Vocational Education and Training Authority (TEVETA).

SMEC is supporting the MoEST to undertake an independent validation/verification for the SDP.

# Resources & Industry

SMEC delivers the best possible outcomes for expansion, relocation and modification of mining, oil and gas, and industrial and manufacturing projects.

SMEC offers tailored solutions dedicated to:

- Mining
- Oil and gas
- Industrial and manufacturing

Our mining capabilities range from operational improvements and cost control, through to risk management advice, project management, and owners' representative services.

At SMEC, we provide oil and gas capabilities through all stages of a project, from exploration, production, transmission and storage, through to processing, refining, and retail operations.

Our industrial and manufacturing experience encompasses a range of industry sectors including plastics and chemicals, pulp and paper, food and beverage, and aerospace and defence.



## Supply Chain Optimisation, USA

SMEC was engaged by an independent oil refinery, located in Southern Texas, USA to define the supply chain lifecycle for its 2016 Plant Turnaround, and to align that lifecycle with the third phase of a Maintenance, Repair and Operations (MRO) Optimisation Project.

The project comprises three phases. During Phase 1, SMEC created a graphical Supply Chain Operating Model encompassing the scope of the Plant Turnaround and identified supply chain related deliverables and activities in the client's planning and tracking business system. SMEC then aligned these activities with the corresponding components of the Supply Chain Operating Model.

Key deliverables included: development of process supporting tool sets; Key Performance Indicators (KPIs) roll out; updates to business systems to support new process automation; development of a root cause analysis training program; design of an inventory audit program; and restructuring recommendations.

Upon the successful completion of Phase 1, SMEC was engaged for Phase 2 which focused on the development of tactical and operational processes, procedures, work instructions and supporting documentation.

The client extended the project into Phase 3, focusing on extending the developed strategies and methodologies to the site wide major projects group.



## Installation of Wellhead Gas Compressors, Bangladesh

The Government of Bangladesh commissioned a Natural Gas Efficiency Survey which recommended the installation of wellhead gas compressors at two major gas fields: Titas Location C and Narsingdi, in order to mitigate the ongoing gas supply shortfall caused by reservoir depletion.

Funded by the Japanese International Cooperation Agency (JICA), this project will comprise the installation, commissioning and testing of gas compressor units and associated facilities.

SMEC, in association with ILF Germany, was appointed by Bangladesh Gas Fields Co. Ltd. (BGFCL) to provide Design Engineering and Project Management Consultancy (PMC) Services.

The SMEC-ILF Germany Joint Venture is providing basic engineering services; tender preparation and evaluation for Engineering, Procurement and Construction (EPC); detail design review; procurement, construction, and commissioning supervision; and institutional development.



## Waterberg Coal Project, South Africa

Waterberg Coal Company (WCC) manages the rights to several coal resources in the Waterberg Lephalale region of South Africa. WCC engaged SMEC to undertake an inception study for a power grid assessment and master layout plan.

The project comprises an export coal mine, a local thermal coal supply mine and an Independent Power Producer (IPP) power station.

SMEC is providing technical advisory services including grid studies, project development and execution, master layout development and technology selection.



## Challenger Gold Mine, Australia

SMEC is providing construction supervision of the 2.5 m upstream raising of the tailings dam at the Challenger Gold Mine, located at a remote mine site, approximately 600 km north west of Adelaide.

The scope of work includes: excavation of material from waste rock stockpiles; placement of clay material on the perimeter of the dam; construction of the decant causeway and access road surfaces using waste rock; and erosion protection using armour rock.

Upon completion, the raising will provide 12 months storage capacity.

“SMEC was instrumental in the definition and implementation of practices and processes to optimise the performance of our equipment.”

- Detour Gold, Canada



Photo: Jamie Thom

**Local People.  
Global Experience.**