SMEC

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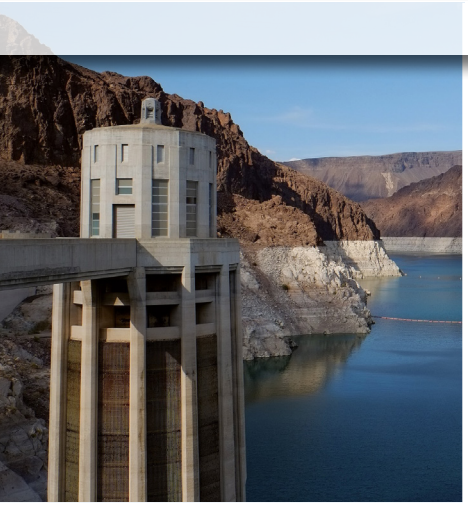
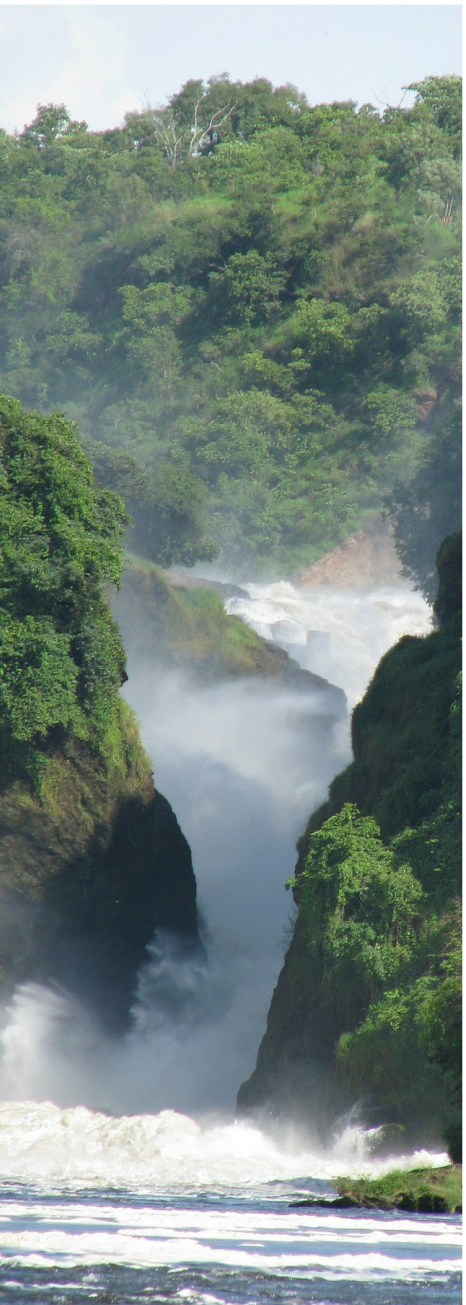
2016 | **Q1** OUR FEATURE | **Hydropower**





Our News | **In Brief**

Our CEO | **Andy Goodwin**

SMEC began the 2016 calendar year in a strong position with significant project wins across all Divisions, including: the Darlington Upgrade Project in Australia; the Climate Resilience Sector Project in Tonga; the Nalsing Gad Hydropower Project in Nepal; and the provision of design services on the N1 freeway upgrade in South Africa. We also continue to develop a number of business improvements in line with our strategic plan.

There have been some changes to the SMEC Board this quarter. Peter Busbridge has resigned as Chairman and Director of the Board, effective 7 March 2016. Peter made an enormous contribution to SMEC over his (almost) 42 years of service, and his understanding of the business combined with his leadership, drive and energy will be greatly missed. Max Findlay is SMEC's new Chairman. Max joined the SMEC Board as a Non-Executive Director in 2010, and was appointed Deputy Chairman of SMEC in 2014. Max serves on the Boards of several organisations, including the Royal Children's Hospital, and is a Fellow of the Australian Institute of Company Directors.

The SMEC Board recently approved the half-year results for SMEC Holdings Limited, detailing SMEC's financial performance for the period 1 July 2015 to 31 December 2015. The results show increases in both total fee revenue and profit before tax. These results reflect continued growth in infrastructure development in Australia, South Asia, the Middle East and Africa.

Andy Goodwin
Managing Director and Chief Executive Officer

Darlington Upgrade Project

Australia

The Gateway South Consortium, comprised of the Design Joint Venture (SMEC, Jacobs and KBR) and Construction Joint Venture (Fulton Hogan and Laing O'Rourke), has been engaged by the Department of Planning, Transport and Infrastructure to design and construct the A$620 million Darlington Upgrade Project in Adelaide. The Project will comprise the upgrade of 3.3 km of Main South Road, including a non-stop motorway between the Southern Expressway and Tonsley Boulevard requiring grade separations at five intersections. SMEC (in association with its joint venture partners) will be responsible for design coordination, traffic modelling, traffic engineering, bridge and road design, drainage, and Intelligent Transportation System (ITS) design.

Pacific Highway Upgrade

Australia

SMEC has been awarded a contract with New South Wales (NSW) Roads and Maritime Services to undertake the detailed design of the 18 km Broadwater to Pimlico section of the Pacific Highway Upgrade. The Pacific Highway Upgrade is one of the largest road infrastructure projects ever undertaken in NSW. Broadwater to Pimlico will comprise a new greenfields section and the duplication of the existing highway to form a 110 km/h four-lane dual carriageway. SMEC's services will include: detailed geometric design of the highway; flood studies; detailed design of 12 bridges, drainage culverts and retaining walls; and design of pavements and road furniture.

WestConnex New M5 Project

Australia

SMEC, in association with Arcadis and APP Corporation, has been appointed Independent Certifier (IC) of the WestConnex New M5 Project in Sydney by the Sydney Motorway Corporation. Project works comprise: 9 km of new motorway tunnels; widening and realigning a section of the existing M5 East Motorway; a new free-flow interchange; two new road bridges; 14 km of new and upgraded pedestrian, cycle and shared paths; water treatment and ventilation facilities; tolling infrastructure; and fire and safety systems. The IC Team will be responsible for reviewing and verifying a major portion of the design, ensuring the tunnels and extensive associated infrastructure are designed to standard.

Matarbari Power Project Access Roads

Bangladesh

SMEC and Associated Consulting Engineers (ACE Consultants), a SMEC subsidiary, have been engaged by the Bangladesh Roads and Highways Department to provide design, supervision and monitoring services for the construction of more than 40 km of access roads on the Matarbari Ultra Super Critical Coal-Fired Power Project. Project works comprise the construction of a new 10 km road, rehabilitation of a 12 km road, repairs to 20 km of roadway and construction of a 640 m pre-stressed concrete bridge.

Bridge Improvement Project

Bangladesh

SMEC and Associated Consulting Engineers (ACE Consultants), a SMEC subsidiary, have been engaged as part of a Consortium (led by Oriental Consultants Global) to provide consulting services on the Western Bangladesh Bridge Improvement Project. The objective of this project is to improve the reliability and efficiency of the Bangladesh road network. Project works will include the construction and rehabilitation of 50 concrete bridges, 10 steel bridges and one separate bridge. The Consortium will provide detailed design, construction supervision, implementation of the Environmental Management Plan and Resettlement Action Plan, environmental monitoring and technology transfer.

Tono and Vea Irrigation Schemes

Ghana

SMEC has been engaged by the Ghana Ministry of Food and Agriculture to prepare detailed designs and tender documentation for the rehabilitation of the Tono and Vea Irrigation Schemes in Ghana. The objective of the project is to rehabilitate and modernise each of the schemes in order to improve water conveyance efficiency, technical operations and scheme management. SMEC's services include: hydrological, topographic and geotechnical studies; Environmental and Social Impact Assessments; economic and financial analysis; and the preparation of operation and maintenance manuals.

Catchwater System Studies

Hong Kong

SMEC has been appointed by the Hong Kong Water Supplies Department (WSD) to undertake a feasibility study of eight catchwater systems. Following an increase in catchwater-related incidents, the Government of Hong Kong initiated studies to assess potential catchwater system hazards and identify relevant improvement works. From these studies, eight catchwater systems were classified as medium to high-risk and require improvement works. SMEC will recommend preliminary design solutions and improvement works for each of the eight catchwater systems and determine the overall feasibility of the project.

Buso River Bridge

Papua New Guinea

SMEC has been appointed by the Papua New Guinea (PNG) Department of Works (DoW) to provide consultancy services on the Buso River Bridge Hydrological Investigation. Located in Morobe Province, the Buso River is among the fastest flowing rivers in the world. Following extensive damage to the existing Buso River Bridge during major flooding, the DoW has proposed the design and construction of a new river crossing comprising of a multi-span structure with intermediate piers. SMEC will undertake hydrologic and hydraulic investigations that will help to identify optimum site options, and provide essential data on the bridge structure to enable a bridge design and construction tender.

Flood Estimation Manual

Papua New Guinea

SMEC has been engaged by the Papua New Guinea (PNG) Department of Works (DoW) to provide consultancy services for the review and revision of the current PNG Flood Estimation Manual. The original manual was initially prepared by SMEC in 1990 and has been in use for more than 25 years. The objective of the project is to revise and update the manual to reflect international standards and best practice, and provide a standard guideline for estimating rainfall runoff and floods in PNG. The revised manual will improve the accuracy of flood estimation by incorporating the latest in runoff and flood modelling software, as well as addressing the potential impacts of climate change on flood estimation.

Freeway Upgrade

South Africa

SMEC has been awarded a contract with the South African National Roads Agency Limited (SANRAL) for the provision of design services on the N1 Zandkraal to Winburg freeway upgrade in Free State, South Africa. This project aims to address current capacity constraints on the N1 in order to accommodate growing traffic demands. Project works comprise the upgrading of a 43 km section of the N1 from a single to a dual carriageway, the addition of two new interchanges, and construction of additional lanes at the Zandkraal Toll Plaza. SMEC will provide preliminary and detailed design, tender documentation, construction supervision, material source investigations, environmental approvals and traffic studies.

Our Feature | **Hydropower**

SMEC's hydropower project capabilities extend throughout all stages of a project, from conception through to detailed design and construction.

SMEC has completed major upgrades and refurbishments on existing infrastructure, as well as the design and construction of new facilities and networks for high capital, multifaceted schemes through to low-capital, localised projects, providing cost-effective and innovative solutions to meet project and client needs.

> SMEC's hydropower experience ranges from 5 kW micro power stations through to 8,000 MW major hydroelectric schemes.

SMEC's areas of specialisation include: surface and underground power stations; pumped storage and pumping stations; intake and outlet structures; tunnels, shafts and underground structures; and pressure and gravity pipelines.

SMEC provides a full range of hydropower capabilities, including: engineering and design; concept assessment; ranking appraisals; feasibility studies and investigations; project planning; construction management and supervision; contract management; operations and maintenance advice; dam safety reviews; surveillance and monitoring; and asset evaluation.

Feature Location | **Malaysia**

Ulu Jelai Hydropower Project: Ulu Jelai is a 372 MW hydropower development on the Bertam River in Pahang. The project aims to meet increasing electricity demand, improve power system security and reduce carbon emissions. Key features of the development include the 80 m high Susu Dam, Telanok Underground Power Station and 22 km of tunnels. SMEC provided geotechnical investigations, tender design, detailed design of civil works, electromechanical plant configuration, construction supervision and commissioning.

Tekai Hydroelectric Project: SMEC was engaged to provide site investigations, environmental and social impact studies, a reservoir optimisation study, engineering designs and construction supervision for the Tekai Hydroelectric Project. This project comprises two cascading dams with 168 MW peaking power station. SMEC will also provide construction supervision services during the construction phase.

Sarawak Renewable Energy: The Sarawak Corridor of Renewable Energy Project involves the construction of major hydroelectric and electricity infrastructure designed to reduce Malaysia's dependency on power generation from diesel fuel, and improve the electricity supply to the general public. Project opportunities have been identified to develop over 8,000 MW of hydroelectrical power through 10 separate hydropower projects. SMEC provided engineering consultancy services for five northern project sites.

Kerian Hydroelectric Project: The Perak Government awarded a concession to Kerian Energy to identify, design, develop and operate hydropower schemes on the Kerian-Selama river network. The total scheme capacity is 30 MW. SMEC's proposed scope of work is divided into two phases: feasibility study review and basic engineering design; and detailed design and construction supervision.

Technical Expert | **Andreas Neumaier, GM Hydropower & Dams**

Andreas Neumaier - General Manager (GM) Hydropower & Dams, Asia Pacific

Andreas has over 35 years' experience in all aspects of civil structures for hydropower projects. His expertise extends to the preparation of feasibility studies, detailed design and preparation of contract documents for dams (earth fill, concrete gravity, roller compacted concrete (RCC) and concrete-faced rock fill dams), power stations, spillways, diversion arrangements and penstocks. As GM Hydropower and Dams for SMEC's Asia Pacific Division, Andreas is responsible for the successful delivery of SMEC's hydropower projects in the region. Andreas holds a Masters Degree in Civil Engineering from Karlsruhe University, Germany and a Bachelor in Business (Management) from Deakin University, Australia.

What aspect of your role do you most enjoy?

What I enjoy most is that every project is unique and requires special consideration of individual site conditions and constraints. I also enjoy bringing together the technical experts and specialists required for these complex projects.

What are some of the common challenges you face?

Striking a balance between economic viability and respecting the rights of those affected by the project is a challenge common to hydropower projects. SMEC's multidisciplinary team works together to develop optimum solutions for the implementation of these projects which will ultimately provide long term benefits to the local community.

What does the future hold for the industry?

Due to the effects of global warming and depleting natural resources, the need for renewable and sustainable power generation continues to increase. With the construction of power transmission grids connecting cities, countries and even continents, hydropower will play a valuable part in providing power in times of peak demand and will continue to be a driver for sustainable development across the world.

Key Project | **Budhi Ganga Hydropower Project, Nepal**

SMEC is providing detailed tender designs to the Government of Nepal's Department of Electricity Development on the 20 MW Budhi Ganga Hydropower Project.

The Budhi Ganga Hydropower Project is located on the Budhi Ganga River within the Achham and Bajura districts in the Far-Western Development Region of Nepal, approximately 890 km west of the capital Kathmandu.

The objective of the project is to increase the electricity generation capacity of Nepal in order to help meet national growing load demands and reduce load shedding.

The project is a peaking run-of-river scheme with an installed capacity of 20 MW, utilising a design discharge of 28 m^3/s and a gross head of 90 m. The project headworks comprise: a 25 m high concrete gated diversion weir and intake structure; a 5.6 km long power tunnel leading to the drop shaft; and a surface powerhouse housing two 10 MW vertical Francis Turbine Generators. An 87 km long 132 kV transmission line connects the scheme to the Lamki substation.

SMEC, in association with Udaya Consultancy, is providing: a review of the existing feasibility study; detailed tender designs of all civil works, gates, penstock, turbines, generators, transmission line and switchyard; a cost estimate and economic viability study; and the preparation of tender documents.

SMEC will also review the existing Environmental and Social Impact Assessment (ESIA) and develop an Environmental and Social Management Plan. This will include preparing the terms of reference and scoping documents, updating baseline surveys and conducting detailed analysis of impacts anticipated during construction and operation phases.

Our Divisions | **Resources**

This quarter the Resources Division continued to focus on pursuing clients globally and offering integrated asset management, mining and oil and gas services.

In Australia, SMEC is building client and partner relationships with reputable service providers as we continue to strengthen our position in the market place.

Within the Asia Pacific Division, SMEC has recently mobilised a project team for an underground expansion study for Philix Mining Corporation in the Philippines.

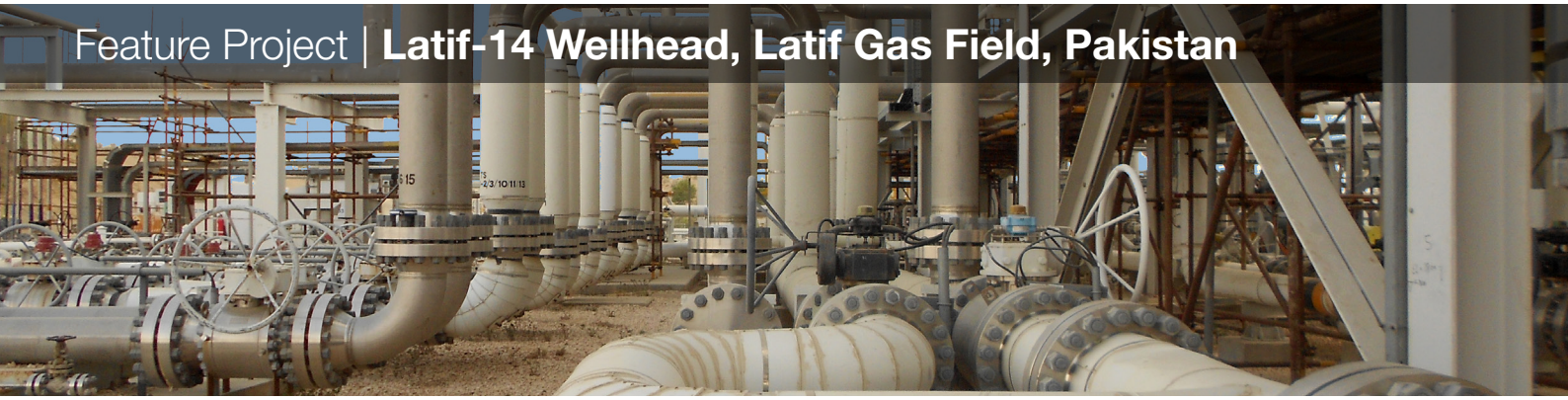
In Africa, SMEC has identified several Asset Management project opportunities in Botswana, Malawi, Tanzania and Nigeria.

In South Asia Middle East, SMEC (in association with ILF Germany) has been engaged by Bangladesh Gas Fields Company Limited for the installation of compressors at its Titas Location C and Narsingdi Gas Fields Project.

The Division welcomes Richard Dewhirst to the role of General Manager Resources, SAME. Based in SMEC's New Delhi office, Richard is responsible for resources activity across South Asia and the Middle East.

John Stocco – Chief Operating Officer, Resources

Feature Project | **Latif-14 Wellhead, Latif Gas Field, Pakistan**



OMV (Pakistan) Exploration G.m.b.H (OMV) operates a number of natural gas facilities in Pakistan, including the Latif Gas Field, an operational site which was discovered in 2007, and Sawan Gas Plant, located in the Thar Desert, 80 km southeast of Sukkur in the Sindh Province.

OMV and its joint venture partners (AGIP Exploration and Production Limited, Pakistan Petroleum Limited, Government Holdings and Moravske Naftove a.s.) signed a development and production lease for the development of Latif Gas Field. This lease formed part of Pakistan's Exploration and Production Policy to encourage new investments in the upstream oil and gas sector.

The development comprises drilling of new wells and construction of a 50 km pipeline to transport gas produced at Latif, to the OMV operated Sawan Gas Plant (a state-of-the-art sour gas processing plant) for processing, before delivery to customers.

Latif Gas Field is currently producing approximately 110 million standard cubic feet of raw gas per day (MMSCFD) from its Latif-1, Latif-2, Latif North-1, Latif-5, Latif-6, Latif-7, Latif-9 and Latif-10 wells.

OMV has engaged SMEC Oil & Gas (a SMEC subsidiary) to perform detailed engineering of the Latif-14 wellhead.

The project scope of work includes: detailed design of Latif-14 wellhead surface facilities, a 10 km long flowline from the Latif-14 wellhead to gas gathering manifold at Latif North-1; and tie-in arrangements with the existing facility at Latif North-1.

> "Raw gas from Latif is supplied through a 16 inch carbon steel pipeline for processing at Sawan Gas Plant.

SMEC Oil & Gas was previously engaged to undertake: the detailed designs for Latif-5, Latif-6, Latif-7, Latif-9 and Latif-10 wellheads (as well as their respective flow lines); and the development of scope of work for construction contractors.

Waterberg Coal Power Grid Assessment
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 technical advisory services 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 undertaking grid studies, project development and execution, master layout development and technology selection.

Open Cut Coal Mine Feasibility Study Review
Australia

SMEC has been engaged to undertake a high level review of a feasibility study for an open cut coal mine (using a truck and shovel method) located in the Hunter Valley region of New South Wales. The project scope of work includes all mine infrastructure, water supply and tailings management. SMEC will complete a review of the current feasibility study, determine potential defects, highlight areas of concern (if any), and identify areas for improvement.

QIT Madagascar Minerals Weir Optimisation
Madagascar

SMEC completed a prefeasibility study on the optimisation of a weir for QIT Madagascar Minerals (QMM). Located on the Anony River, the weir was built to provide fresh water for QMM mining operations and the nearby town of Fort Dauphin. SMEC was engaged to: perform a detailed review of the current conditions of the weir and its effects on mining operations and the environment; recommend an optimised operating mode for the weir; and review, validate and update hydrologic and hydraulic models.

Equipment Maintenance Optimisation
Chile

SMEC has been engaged to optimise equipment maintenance strategies at one of the world's largest copper mine. The project comprises updating and optimising maintenance strategies for six areas within the operation: crushers and conveyors; energy; haulage trucks; overhead cranes; shovels; and water and tailings. The project (to be completed in five stages) will: increase availability of critical equipment; reduce maintenance costs; and expand coverage of the Maintenance Plan.

Our Divisions | **Australia and New Zealand**

The ANZ Division had a successful quarter securing a number of major projects across all regions.

In the Northern Region, SMEC secured the role of Inland Rail Technical Advisor for the Australian Rail Track Corporation (ARTC) in Queensland.

In the Central Region, SMEC has been engaged (as part of a consortium) to provide design services on Capital Metro, Canberra's light rail project.

In the Southern Region, SMEC was awarded a number of significant projects, including the Darlington Upgrade Project in Adelaide (as part of a Design Joint Venture), and the Design and Construct (D&C) contract for Stage 1 of the West Gate Distributor Project (Shepherds Bridge) in Melbourne.

The Division is currently delivering a number of complex projects, including: Gateway Upgrade North in Queensland; Sydney Metro Northwest and NorthConnex in New South Wales; and significant urban development projects in all regions.

These contracts, coupled with a strong pipeline of opportunities will lead to a very busy end to the financial year.

Hari Poologasundram – Chief Operating Officer, Australia and New Zealand

Feature Project | **Canberra Airport Bay 5A Revision Project, ACT**

Canberra Airport, located in Australian Capital Territory (ACT), developed an implementation plan for a range of upgrades to infrastructure in order to meet projected future growth.

The Airport has completed the construction of a new multi-user terminal and apron, including new terminal space and apron capacity to allow for future international flights. The Canberra Airport Bay 5A Revision project will help to facilitate international flights from Canberra to Singapore and New Zealand (Wellington).

A major consideration for this airside design project was the application of specific regulatory certification of designs, operational planning, Safety Management Systems and airport engineering. These regulatory provisions are required by the Civil Aviation Safety Authority (CASA), Department of Infrastructure and Regional Development (DoI) and the International Civil Aviation Organisation (ICAO).

SMEC's scope of work included preparing Bay 5A for the arrival of B777-200 aircraft (capable of undertaking long haul flights) and the servicing procedures required. SMEC also assessed the airspace protection surfaces against the tail heights of the aircraft, updated the B777-200 operating procedures and provided general regulatory advice. A critical component of the assessment was the refuelling operation of the aircraft. This was developed with onsite trials and led to changes to the aerobridge.

> “ Canberra Airport now has the capacity to facilitate international flights.

As the airside design and engineering activity directly impacts end-users, significant stakeholder consultation was required to ensure all aspects of the infrastructure implementation aligned with the operational and regulatory expectations. The stakeholder engagement process included input from: international, domestic and regional airline carriers; federal, territory and government regulators; as well as airport and airside operations personnel. In addition, all recognised international aviation regulations, adopted best practices and aeronautical operations standards were observed.

Australian Driverless Vehicle Initiative

Australian Capital Territory

The Australian Driverless Vehicle Initiative (ADVI) is a significant program which aims to accelerate the safe and successful introduction of driverless cars onto Australian roads. SMEC has partnered with ARRB Group on the ADVI program, acting as a research partner in the areas of transport planning and modelling. This program will help to explore the impacts and requirements of this new technology and raise public awareness through demonstrations involving government, industry and research entities.

Normanton Solar Photovoltaic Power Station

Queensland

Normanton 5 MW Solar Photovoltaic (PV) Power Station is the first stage in a proposed portfolio of power generation infrastructure that aims to reduce transmission line energy losses and facilitate additional network capacity in regional Queensland. SMEC was engaged to undertake the following services: concept design; detailed design of electrical, civil, structural and geotechnical elements; electrical modelling; geotechnical and electrical testing; electrical grid assessments; and project management.

Isabella Weir Upgrade

Australian Capital Territory

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 an existing urban development. 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 safety guidelines. SMEC is providing hydraulic validation modelling for the upgrade works, using Computational Fluid Dynamics (CFD) methods.

Townsville Urban Renewal

Queensland

This significant urban renewal project will transform Townsville's inner-city into a world-class lifestyle precinct, providing the first step in the revitalisation of the waterfront and inner-city areas. SMEC is providing design services for Stage 1A of the project. The design will include: boardwalks and platforms over the water; new paths and access ramps; lighting and signage; reopening of the access under George Roberts Bridge; resurfacing and extending existing walkways; and upgrading existing marine structures.

Our Divisions | **Asia Pacific**

The Asia Pacific Division began the 2016 calendar year with a number of significant project wins.

In Brunei, SMEC was awarded a contract with LSL Sdn. Bhd. for the detailed design of the Sg. Kedayan Eco-Corridor Project, which aims to develop a world-class waterfront with floating crescent features.

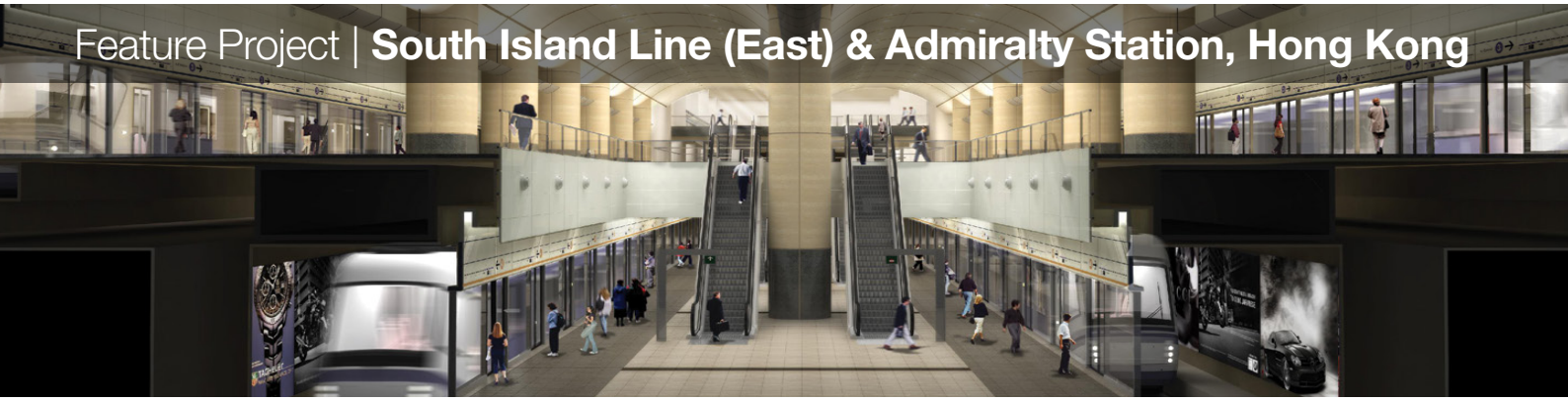
In Hong Kong, SMEC (in association with AECOM) has been engaged to help reduce the risk of landslides in Kowloon and the New Territories, as part of a Landslip Prevention and Mitigation Program. SMEC also secured a contract with Urbis Limited to support the preparation of a planning application for the construction of Departmental Quarters for Customs and Excise.

In the Philippines, SMEC was awarded the project implementation consultant role for the Energy Efficient Electric Vehicles (E-Trike) Project. This Project aims to make a shift towards a sustainable transport program to lessen the country's dependence on imported energy.

In Tonga, SMEC won the Climate Resilience Sector Project which aims to increase the resilience of the country's economic, social and natural eco-systems to climate variability.

Kalai Arumugam – Chief Operating Officer, Asia Pacific

Feature Project | **South Island Line (East) & Admiralty Station, Hong Kong**



Hong Kong's Mass Transit Rail (MTR) network carries an average of four million passengers each day. The integrated Admiralty Station provides a convenient interchange hub for four metro services: the South Island Line (East), the Shatin Central Link, the existing Tsuen Wan Line and the Island Line.

Following the completion of the preliminary design for the South Island Line (East) in 2009, Mass Transit Rail Corporation (MTRC) proceeded with the detailed design of the South Island Line (East).

The South Island Line (East) is a medium capacity railway line with five stations and 7 km of underground and elevated structures. The Line connects the MTR network at Admiralty Station to the Southern District of Hong Kong, via new stations at Ocean Park, Wong Chuk Hang, Lei Tung and South Horizons.

> South Island Line (East) will reduce travel time between Admiralty and the Southern District of Hong Kong.

MTRC is constructing a train stabling and maintenance depot at Wong Chuk Hang to provide maintenance support for the South Island Line (East) including an above-ground multi-storey property development.

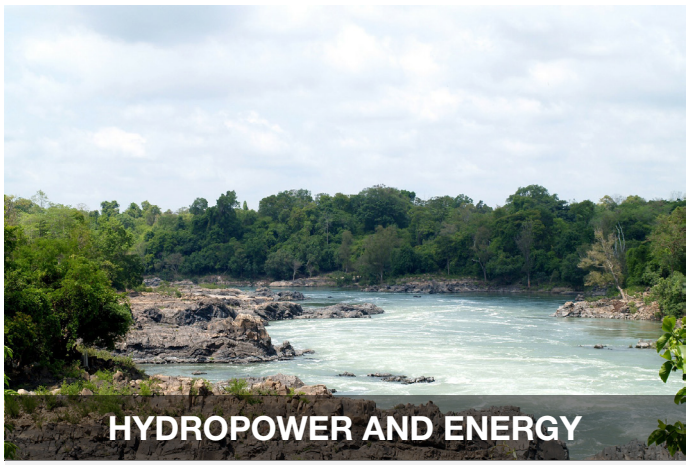
SMEC was engaged by MTRC to provide design services for permanent and temporary works on the Admiralty Integrated Station and Shatin Central Link (SCL) Enabling Work Project.

These works include: the integration of all four metro lines to enable a convenient interchange (comprising a 23 m span, 16 m high and 120 m long rock cavern); underpinning of the Tsuen Wan and Island Line finger tunnels; construction of the Shatin Central Link platform tunnels and adits south of the integrated station (including complication adit/cavern junction arrangements); and construction of 1 km long turnback tunnels and a double track refuge tunnel (for future extension) for the proposed Shatin Central Link line.

Upon completion, the South Island Line (East) will: relieve road traffic and existing rail service congestion; reduce travelling times for rail and road users; and act as a catalyst for redevelopment and urban revitalisation in Wong Chuk Hang.

West Kowloon Terminus Station South
Hong Kong

The terminus of the Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) is one of the largest buildings currently under construction in Hong Kong. SMEC is providing services under separate contracts for this project, including: Independent Checking Engineer (ICE) services to the Laing O'Rourke-Hsin Chong-Paul Y Joint Venture; and the provision of baseline noise monitoring and assessment, independent slope specialist, dewatering and geotechnical engineering services to the Leighton-Gammon Joint Venture.



Electricity Industry Policy Implementation
Papua New Guinea

The aim of this Asian Development Bank funded project is to improve quality and access to electricity services in Papua New Guinea. Working closely with PNG Power Ltd, SMEC prepared an expansion plan for the national distribution grid. Project scope comprised the upgrade and construction of 132 kV and 66 kV transmission lines and substations, and the upgrade and extension of 22 kV and 11 kV MV/LV distribution networks. SMEC undertook a power system analysis and prioritised areas for development.

Kabulnan-2 Multipurpose Irrigation & Power Project
The Philippines

This project aims to enhance irrigation performance, increase agricultural productivity, help attain food security and improve rural income. SMEC was engaged to review the previous feasibility study and produce a comprehensive study and implementation plan covering all technical, economic and financial aspects of the scheme. SMEC undertook Value Analysis/Value Engineering (VA/VE) and provided preliminary engineering designs, an environmental and vulnerability assessment, and development and sustainability plans.

Infrastructure Facility Coordination
Vanuatu

SMEC was engaged as part of the Asian Development Bank's response to the Government of Vanuatu's request for assistance following a category five cyclone (Cyclone Pam) which tore through the southern islands of Vanuatu, causing serious damage to infrastructure. The Pacific Regional Infrastructure Facility (PRIF) requested assistance in procuring technical expertise for structural engineers. SMEC provided structural engineering services to help assess the damage on Vanuatu's bridge infrastructure.

Our Divisions | **South Asia and Middle East**

The South Asia Middle East Division was awarded a number of significant and strategically important projects this quarter.

In Bangladesh, SMEC signed contracts for the Matabari Access Road and the Western Bridge Project. In Kazakhstan, SMEC has finalised the time based contract for the Irrigation Drainage Improvement Project (Phase 2). In Nepal, SMEC secured the Nalsing Gad Hydropower Project. In Pakistan, SMEC successfully negotiated the Karot 720 MW Hydropower Project, in conjunction with Chinese Contractor, China Three Gorges.

The Senior Management Meeting for the SAME Division was held in Colombo, Sri Lanka from 21-22 January. This two-day conference brought together divisional and functional leads from across the Division. The aim of the conference was to discuss current operations and strategies for improving business development in the Division. The conference also focused on strategic actions, risks and workplace health and safety.

George Lasek – Chief Operating Officer, South Asia and Middle East

Feature Project | **Flood Emergency Reconstruction Project, Pakistan**

In 2010 and 2012, devastating floods swept across Pakistan, affecting the lives of over 20 million people and causing severe damage to transport infrastructure and irrigation facilities in 80 of the country's 110 districts across Balochistan, Khyber Pakhtunkhwa, Punjab and Sindh.

Under the Flood Emergency Reconstruction Project (FERP), the Asian Development Bank (ADB) granted a loan to the Government of Pakistan for the rehabilitation and reconstruction of essential transport infrastructure (national and provincial roads and bridges), reconstruction of irrigation facilities, and the upgrade of flood protection embankments and other drainage infrastructure in the worst affected areas.

> “This project helped to rebuild vital infrastructure and contribute to the recovery of flood-affected areas.

FERP comprises three components: national highways rehabilitation and reconstruction; provincial roads rehabilitation and reconstruction; and irrigation, drainage and flood protection infrastructure rehabilitation and reconstruction.

SMEC (in association with four local firms) was engaged by the National Highway Authority on Component 1 to undertake supervision and administration of 11 construction contracts. These contracts involved the reconstruction of 232 km of national roads (ranging in length from 5 km to 150 km) and an eight span bridge.

The contracts were located in the Swat Valley in the Khyber Pakhtunkhwa Province near the lower reaches of the Indus River. The reconstruction of a section of National Highway 5 (N5) between Dherki and Hala in the Sindh Province was a major focus of this Component.

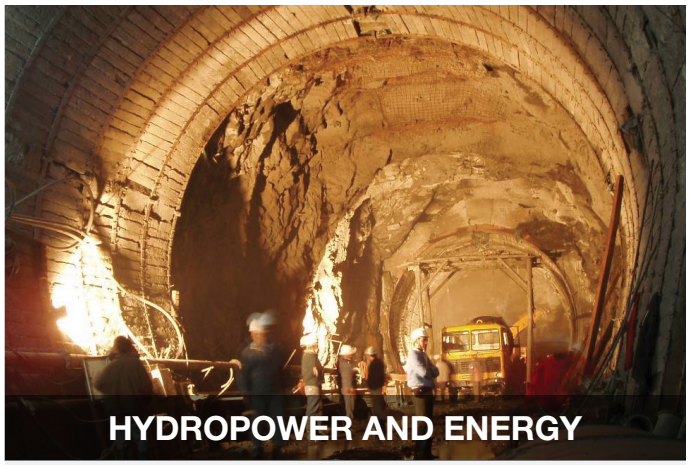
SMEC provided project management services on behalf of the National Highway Authority, as well as engineering, contract supervision and administration services.

The successful completion of this project has helped to restore critical infrastructure to sustain livelihoods and provide local access to markets.

TRANSPORT

National Highway Construction
Pakistan

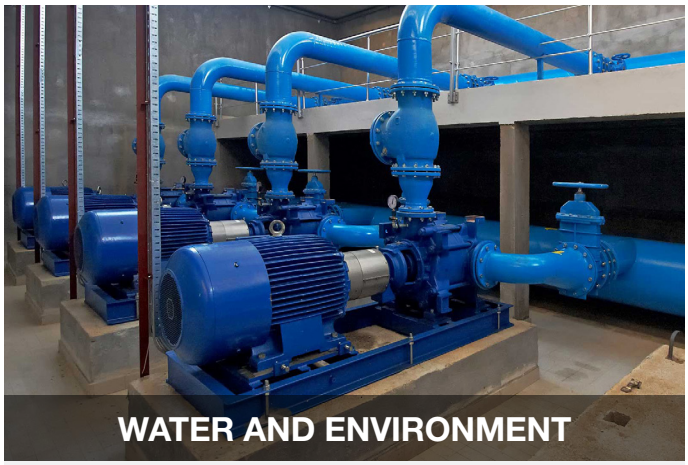
Engineering General Consultants (EGC), a SMEC subsidiary, is providing design and construction supervision services on the Kalat Quetta Charman Road Project on the Pakistan-Afghanistan border. The project comprises: detailed design of 53 km of roadway; replacement of four existing bridges; and construction of four new weigh bridges, four toll plazas, and two pedestrian bridges. Upon completion, the highway will provide a trade route between Pakistan and Afghanistan, increasing socioeconomic development in the region.



HYDROPOWER AND ENERGY

Shongtong Karcham Hydroelectric Project
India

Shongtong Karcham is a 450 MW hydroelectric project located on the Satluj River in Himachal Pradesh, a state in North India. Key features of this project include: a 26 m high barrage; four underground desanding chambers; a 7 km long headrace tunnel, a 110 m high surge shaft and a 23 m wide underground power house with three vertical axes Francis Turbines. SMEC's services include: detailed engineering design; construction drawing of civil works; and the review of all hydromechanical drawings.



WATER AND ENVIRONMENT

Shuwaikh and Hawally Pump Stations
Kuwait

This project aims to improve fresh water supply in Kuwait, by upgrading existing infrastructure and developing new facilities to meet future water demands. Project works comprise: two new pump stations (located at Shuwaikh and Hawally); two new reservoirs; and 27 km of associated main pipelines. The pump stations will serve as potable water supply stations. SMEC, in association with Dar Al Dowailah Engineering, is providing design and supervision services during the construction phase.

URBAN AND SOCIAL DEVELOPMENT

Municipal Capacity Development
Bangladesh

The objective of this project was to help improve management of key urban infrastructure, improve regional and urban planning processes, and strengthen municipal management and sustainable urban development. SMEC provided training and capacity building to local municipalities covering municipal funding, financial management and accounting, organisational management, human resource management and Public-Private Partnership development. SMEC also helped to develop an Annual Operations and Maintenance Plan.

Our Divisions | **Africa**

The Africa Division has secured a number of project wins this quarter, resulting in a record project pipeline. Projects were awarded in five of our six operational regions, with significant growth in Ethiopia, Kenya, Malawi, Nigeria and Zambia. This is a particularly impressive achievement in light of the economic downturn experienced in some African countries.

The Division is currently delivering a number of quality infrastructure projects within key developmental sectors to help improve living conditions within the 26 African countries in which SMEC is active at present.

As part of our commitment to improved service delivery, the Division has recently strengthened its Corporate Legal and Commercial Department, to provide increased support to project teams when managing legal and commercial risks.

Finally, I am pleased to welcome Margaret Amofa to the role of Finance Director. Margaret is based in SMEC's Johannesburg office and will be integral to improving the integration of SMEC's African operations.

Tom Marshall – Chief Operating Officer, Africa

Feature Project | **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 Thwake Multipurpose Water Development Program comprises a dam for water supply, hydropower generation and irrigation development. The dam will also regulate river flows for flood and drought mitigation.

Kenya is classified as a water scarce country. The Athi River Basin, where the Program is located, has the lowest per capita water storage in the country. Currently, there is no existing hydropower generation station within the Basin.

> “Thwake Dam will generate 18 megawatts of power which will be exported to the national grid for countrywide distribution.

The overall objective of the project is to increase water security by providing 680 million m^3 of water storage for power generation, residential consumption, irrigation, and drought and flood 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 with three penstocks for hydropower; one outlet for water supply and one outlet for irrigation; a 900 m long concrete spillway; an emergency fuse plug spillway; access roads; and minor works.

The dam will cover approximately 2,900 hectares spanning Makueni, Kitui and Mbooni districts with a catchment area of approximately 10,250 km^2.

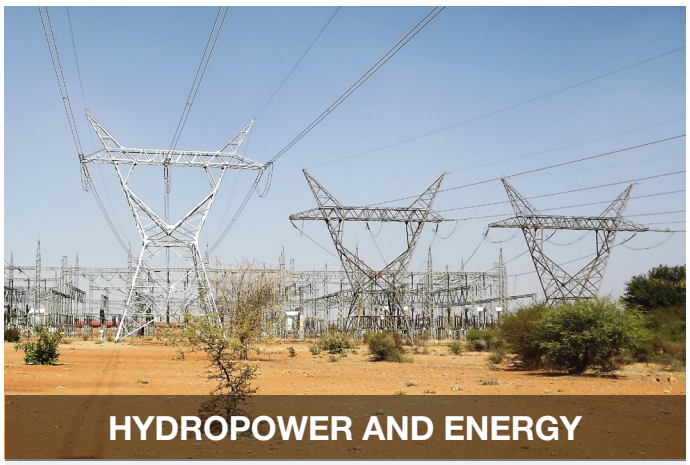
SMEC will design the dam, powerhouse, substation and power transmission main. SMEC is also responsible for the design of a water supply and sewerage system for two nearby rural growth centres and a water transmission line to Konza Techno City (a new planned city). Once the design review phase has been completed, SMEC will provide construction supervision services.

Ultimately, this project will help to provide potable water to over one million people.

TRANSPORT

Road Sector Improvement Program
Ethiopia

This project contributed to Ethiopia's economic development by improving rural road access to meet growing agricultural and economic needs, and strengthening institutional capacity for road development. Project scope included: rehabilitating trunk roads; upgrading roads from gravel to asphalt; supervising road civil works; and capacity building. SMEC improved the performance of road construction and provided capacity building to the Rural Roads Authorities and Ethiopia's National Road Safety Council.



HYDROPOWER AND ENERGY

Chalinze-Dodoma Transmission Line
Tanzania

SMEC is providing consultancy services for the feasibility, supervision and management of the 400 kV Chalinze-Dodoma Transmission Line in Tanzania. This project forms part of the Tanzania Electric Supply Company Limited's (TANESCO) program to increase electricity access throughout Tanzania. Upon completion, this project will help to improve the quality and reliability of TANESCO's transmission and distribution systems, address unmet electricity demands and increase the operation and maintenance capacity of TANESCO personnel.

WATER AND ENVIRONMENT

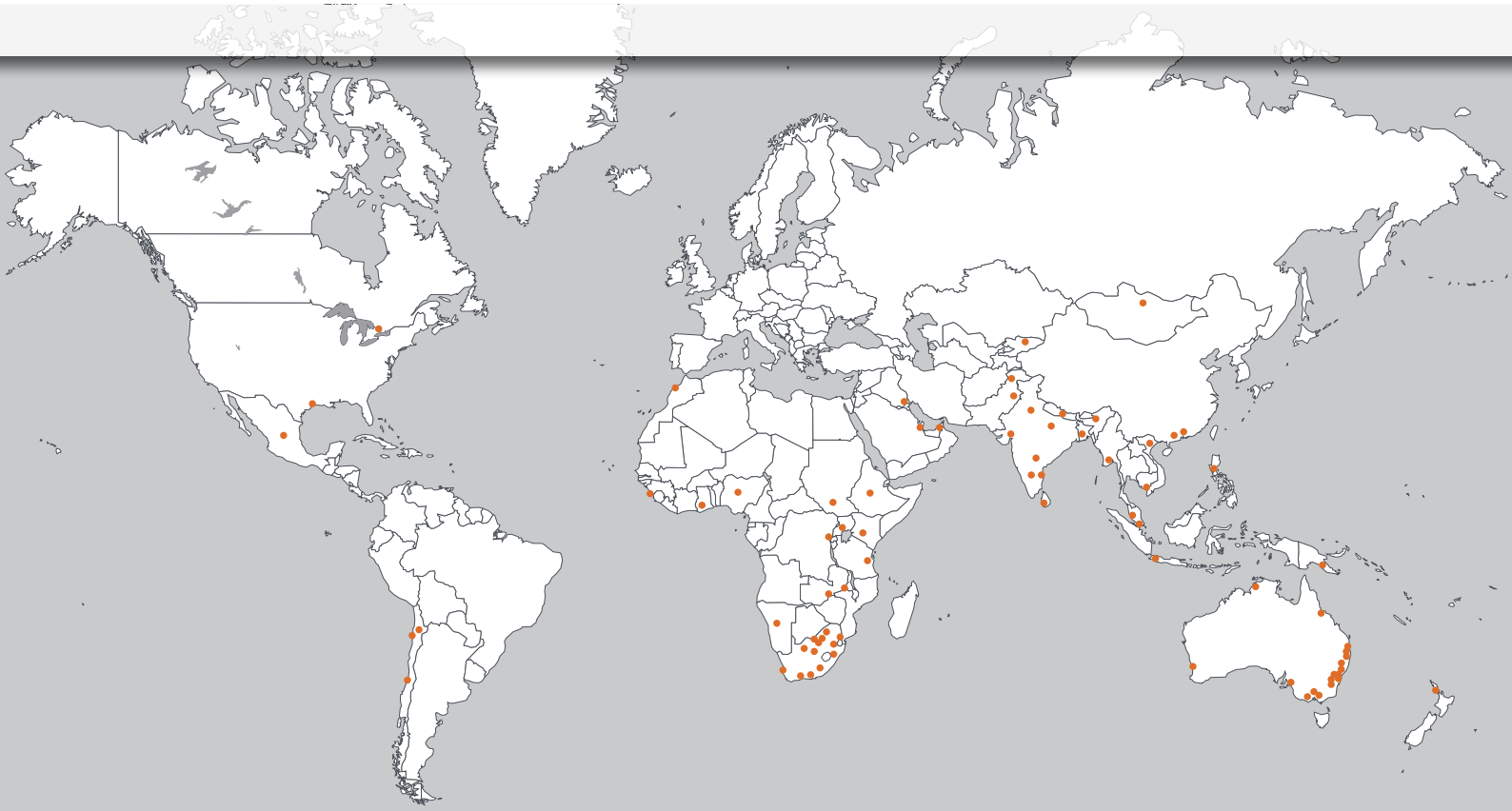
Water Supply and Sanitation Improvements
Zambia

The objective of this project is to increase access to a reliable water supply and improve sanitation and drainage services in Lusaka, a rapidly growing city in Zambia with a population of approximately two million people. Project scope includes: upgrading the primary water distribution system; expanding secondary and tertiary water distribution networks; improving sewerage systems; and mitigating flood risks. SMEC's services include: general program management; financial reporting; and technical assistance.

URBAN AND SOCIAL DEVELOPMENT

Syferfontein Megacity
South Africa

The development of the Syferfontein megacity in Gauteng is part of a 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 completed a comprehensive project evaluation, and provided project management and civil, electrical, transportation and geotechnical engineering services.



ABOUT SMEC

SMEC is recognised around the world for providing high-quality consulting services on major physical and social infrastructure projects.

For over 40 years SMEC has delivered thousands of projects in over 100 countries in the areas of transport; hydropower and energy; water and environment; urban and social development; resources; and industrial and manufacturing. SMEC's success is largely attributed to the Company's ability to address the needs of its clients and people in diverse locations.

With over 5,400 committed people working within an established network of over 75 offices throughout Australia, Asia Pacific, the Middle East, South Asia, Africa, North and South America, SMEC provides professional services that contribute to national development in some of the world's fastest growing economies.

Contact: onesmec@smec.com

www.smec.com