



**Murray
& Roberts**

ENGINEERED EXCELLENCE

FULL BUSINESS
PLATFORM
REVIEWS 2017

01

MURRAY & ROBERTS
FULL BUSINESS PLATFORM REVIEWS '17

FULL BUSINESS PLATFORM REVIEWS

- 00** Oil & Gas
- 00** Underground Mining
- 00** Power & Water





PETER BENNETT
Business platform CEO

OIL & GAS

OVERVIEW

Businesses within the platform:

- CH•IV – HOUSTON, USA
- CLOUGH – PERTH, AUSTRALIA
- CLOUGH BOOTH WELSH – AYRSHIRE, SCOTLAND
- CLOUGH ENERCORE – CALGARY, CANADA
- CLOUGH MURRAY & ROBERTS – CAPE TOWN, SOUTH AFRICA
- e2o – ADELAIDE, AUSTRALIA

“MEANINGFUL GROWTH OFF THIS LOW BASE IS ONLY EXPECTED IN THE MEDIUM TERM, AS CONFIDENCE RETURNS AND GLOBAL ENERGY PRODUCERS START INVESTING IN NEW CONSTRUCTION PROJECTS.”

The Oil & Gas platforms' extensive service offering spans the full asset life cycle, including specialist engineering, construction & EPC, commissioning, and operations & maintenance. Services are provided on new build facilities (greenfields) and operating facilities (brownfields).

Since the second half of the 2014 calendar year, the platform's earnings have been materially impacted by the significant decline in the oil price, and the associated lack of new capital project opportunities coming to market, as clients have aimed to preserve cash by delaying or deferring expenditure. As a result of these changing market conditions, Clough's earnings composition is currently dominated by earnings from commissioning work. Meaningful growth off this low base is only expected in the medium term, as confidence returns and global energy producers start investing in new construction projects.

In addition, global LNG markets are set to remain in oversupply until at least 2021 and there is little opportunity for new greenfields LNG developments in Australia. However, new supply must be developed in the medium term to meet the expected increase in LNG demand from 2021/22.

FINANCIAL

In FY2017, Clough's revenue and operating profit decreased due to the completion of several major greenfields LNG projects in Australia and insufficient new replacement work to maintain revenues. This was anticipated and strategies were put in place to shift focus to brownfields, operations & maintenance, and public infrastructure projects.

Revenue decreased to R6,7 billion (FY2016: R11,2 billion), operating profit fell to R217 million (FY2016: R525 million), and margins were impacted by market pressures and intensified competition for new projects. Clough delivered above target earnings from scope growth on existing Australian LNG projects, including Chevron's Wheatstone Hook-Up and Commissioning, Woodside's Karratha Life Extension and INPEX's Ichthys LNG projects. The businesses in the USA and Scotland also made good contributions to revenue.

At year end, the order book was R5,2 billion (FY2016: R6,4 billion). The decrease reflects the completion of several projects and the continued market slowdown, which has significantly delayed new developments. The stabilisation of the oil price this year, at around US\$50 per barrel, is expected to return confidence in the sector and the reinstatement

of certain project opportunities that were previously deferred. New developments are in the pipeline in PNG and the platform is well positioned to participate in these, having previously delivered successful projects there. The platform is targeting increased earnings in FY2018 through its continued expansion into international markets and diversification into complementary infrastructure and mining markets in Australia.

LEADERSHIP

Strategy implementation

The Oil & Gas platform operates in a dynamic environment. Major Australian LNG facilities built in the last decade are transitioning from construction to commissioning and operations, and the bulk of new projects in Australia are public infrastructure developments, mostly located on the east coast.

Competition continues to intensify given the scarcity of new project opportunities in the platform's traditional and main markets. The platform's reputation as a leading and trusted partner in oil and gas project execution, positions it well for when opportunities return to market.

The following seven strategic initiatives underpin the platform's growth strategy:

- 01 AUSTRALIA:** EXPAND OIL AND GAS EPC AND EPCM PRODUCTS AND SERVICES BUSINESS
- 02 AUSTRALIA:** EXPAND OIL AND GAS COMMISSIONING AND BROWNFIELDS BUSINESS
- 03 AUSTRALIA:** BUILD WATER, POWER AND MINERALS BUSINESS
- 04 ASIA PACIFIC:** GROW OIL AND GAS EPC BUSINESS
- 05 NORTH AMERICA:** GROW OIL AND GAS EPC BUSINESS
- 06 EMEA:** GROW OIL AND GAS EPC BUSINESS
- 07 SUSTAINABLY REDUCE OVERHEADS**

A priority for the year has been to establish the platform's presence in the Australian onshore oil, gas and petrochemical maintenance markets, expanding on its capabilities in the offshore sector. In addition, the platform has continued to

tactically diversify its revenue in response to the current weakness in the oil and gas market by focusing on selected complementary markets in Australia where the platform has the required experience and capability to successfully deliver projects. Selected public infrastructure opportunities are being pursued on Australia's east coast and the platform has secured projects in the water sector in Western Australia.

In collaboration with the Underground Mining platform, several opportunities were pursued on Rio Tinto's Oyu Tolgoi mine expansion in Mongolia and initial work packages have been awarded.

The platform continued to develop its global network of engineering and operating centres, however no significant acquisitions were made during the year. The geographic diversification strategy is focused on expanding oil and gas and nearshore marine service offerings into international growth markets. The platform is identifying an acquisition in North America, to provide it with the construction capability needed to pursue larger project opportunities in the region and to complement its existing engineering capabilities. The platform is also focused on commissioning and brownfields oil and gas opportunities in Australasia and internationally.

Leadership succession and development

Robert Radici was promoted to the executive committee as head of commercial and risk, an internal appointment that strengthened the leadership team. Given the focus on growing its international footprint and order book, the platform's CEO, Peter Bennett, assumed direct executive responsibility for all international operations, following Thomas Dockray's departure. The business development function was also strengthened with senior appointments.

The platform's bespoke training programmes, designed for small-group participation, develops good leadership skills and high-performing teams, essential for executing its strategy.

RELATIONSHIP

Stakeholder management

The platform maintains strong relationships with JV partners and the BAM Clough and the Clough AMEC JVs continue to deliver value. International strategic partnerships provide additional capabilities where it makes commercial sense to do so.

Clough has memberships with several employer organisations, including Employee Relations – Industrial Relations Policy groups, which also support its clients and service companies.

OIL & GAS – CONTINUED

New building codes introduced by the Australian government have impacted the platform's industrial relations, subcontractor management and HSSE requirements on project sites. Decisions by the Fair Work Commission relating to industrial agreements may impact the renewal of some industrial agreements that will expire during FY2018. Strategies are being developed to ensure that the renewals proceed smoothly.

Direct engagements with labour have been prioritised to resolve workforce matters. This has proven successful, with no projects impacted by industrial action during the year.

The Clough Foundation is a semi-independent charitable organisation, which contributes to community development in line with Clough's six-pillar corporate and social responsibility strategy, and the impact of charitable contributions is measured to ensure meaningful support.

Managing human capital

Against the background of a weakening market, the focus for FY2017 was on consolidating human resources initiatives, while preparing for the expected upturn in activity during FY2018. The platform's people-focused programmes have continued to retain, motivate, develop and attract employees, despite the focus on cost minimisation.

Participants from the initial intake to the PMA are nearing the completion of the Level 2 curriculum. This training has been extended to all senior project engineers, resulting in a large group of new participants commencing and completing the Level 1 curriculum, and a third intake is planned for FY2018. A Level 3 curriculum is being developed.

Following the PMA's success and the need to develop supervisory skills, a Construction Management Academy is being developed. The curriculum will cover technical and leadership skills to bolster business acumen, supporting the development of future leaders in the construction environment. The first intake is expected in FY2018.

The Graduate Programme was reinvigorated with an intake of five new graduates. The programme provides practical experience through six-month rotations within a participant's engineering discipline and project engineering. Graduates also rotate through functional disciplines such as HSSE, commercial, procurement/supply chain, quality, tendering, estimating, project controls and planning.

Clough has maintained its commitment to the summer internship programme, where students spend 12 weeks gaining workplace experience prior to completing their tertiary qualifications.

Policies to improve gender and indigenous diversity are being implemented. Clough has established a Policy for Indigenous Engagement and has implemented diversity initiatives focused on indigenous employment, despite there being no regulatory reporting requirements for this. For the platform's South African business, transformation and diversity initiatives are managed as part of Murray & Roberts' transformation programme.

OPERATIONAL

For FY2017, profits were recorded for all of the platform's projects and there were no projects in distress. Together with the platform's business processes, the Pursuit of Excellence culture initiative ensures that work is delivered to a high standard, limiting rework and thereby creating opportunities for scope growth and additional income. This is an essential element of the platform's competitive advantage.

Australia & Asia Pacific operations

Although the largest contributor to the platform's revenue and profit, the division was impacted by delays to new projects. In response to prevailing market conditions, it has continued to reduce its cost base to preserve margins and remain competitive in pursuing brownfields and maintenance project opportunities. The importance that clients place on awarding projects to the lowest cost bidder will continue to impact revenue and earnings in FY2018.

AUSTRALIA & ASIA PACIFIC OPERATIONS

Large projects in Australia were completed, including the second and third LNG trains and subsequent commissioning of the Gorgon project.

- **Wheatstone Hook-Up and Commissioning project (nearing completion):** strong operational performance and awarded significant scope growth, which provided a substantial increase in revenue and was a major contributor to the platform's earnings during the year.
- **Woodside Karratha Life Extension project:** completed the project with no incidents, injuries or environmental damage. Project performance was recognised multiple times by the client and the project won the Murray & Roberts Group Safety Performance Award.
- **INPEX:** mobilised project resources to support hook-up and pre-commissioning work for the offshore Ichthys LNG facilities. The high standard of work has been recognised by INPEX and crews will continue to support these activities in FY2018.
- **e2o:** continued to support clients performing commissioning work on the Gorgon and Wheatstone LNG projects, and will continue to provide operational support as these projects progress into operations.

Americas & EMEA operations

Business activity in these regions remained consistent with prior years and the potential for growth in the international operations is developing.

AMERICAS & EMEA

- **Clough Murray & Roberts:** successfully completed an onshore/offshore pipeline project in South Africa for Sunrise Energy, and several opportunities were identified in the sub-Saharan Africa oil and gas sector which are expected to come to market in FY2018.
- **Booth Welsh:** long-term clients continued to provide a steady stream of work and, in line with Booth Welsh's growth plans, it secured its first project in Australia for Woodside, through long-term client Veolia.
- **Clough Enercore:** significantly impacted by the depressed oil price early in FY2017, Clough Enercore continues to pursue opportunities in Canada and is now also providing value engineering services across the global platform.
- **CH•IV:** remains heavily engaged in LNG market developments in the USA, by providing niche and essential early stage engineering and regulatory consulting services. CH•IV is expanding its service offering and together with e2o, is targeting commissioning opportunities in North America.

RISK

The MAP Programme has been implemented across all projects in Australia and is being rolled out to all subsidiary companies globally. The programme contributed to the significant improvement in safety performance in FY2017, with a reduction in the TRIF from 3.45 to 0.98 and 555 LTI free days up to May 2017. Although there was a decline in work-hours, these outstanding results were achieved against a diversification of projects and an increase in high-risk activities. The safety outcome achieved in FY2017 represents a step change for the platform compared to historical performance levels, with the Woodside Karratha Life Extension project achieving Zero Harm for the first time.

HSSE KPI	TARGET	FY2017
LTIF	0.00	0.24
TRIF	2.68	0.98
Hazard reports	100%	217%
Observation and interventions	100%	145%
MAP verification checks	100%	145%
LTI severity rate	–	0.55%

Safety initiatives

Clough's newly implemented 'Stop-Pause-Play' programme, requires work teams to stop mid-task and apply standard risk assessment processes before returning to the task at hand. The programme improves team member awareness and re-engages the conscious brain to the task.

A HSSE Leadership Programme was developed for construction leaders, combining the practical application of risk management processes with behavioural safety principles. All construction leaders must complete the programme prior to deployment onto projects.

Health initiatives

Pre-mobilisation physical assessments require all project personnel to complete detailed medical assessments, which are supported by regular drug and alcohol testing across sites.

Campaigns to reduce eye injuries and incidents of musculoskeletal sprains and strains have been implemented, including pre-start stretches and end-of-shift eye checking for boilermakers and fitters.

Mental wellbeing is promoted through awareness sessions and supporting interventions include pastors, 'Mates in Construction' and peer counselling. Support counselling helps the early detection of personnel who may be challenged by stressors arising from home, work or the 'working away from home' environments. The HSSE Leadership Programme includes a wellbeing module to help project leaders to identify and manage their own stress and that of their work teams.

A health risk assessment matrix was developed and will be used at the project start-up phase to identify the potential health hazards arising from work tasks and regional factors such as vector-borne diseases, HIV or tuberculosis. The platform has previously worked in developed countries with low and known health risks, however with work commencing in PNG, detailed health management plans will be implemented.

Environment

The Oil & Gas platform has sustained a strong environmental performance with no material environmental incidents or incidents of non-compliance occurring during FY2017. Clough complies with the Australian National Greenhouse and Energy Reporting Requirements (2007) and has a very small carbon footprint, mostly comprising emissions from flights.

Governance

Compliance and implementation of policy frameworks is ensured through the CMS and an internal audit programme, which provides assurance on the adequacy and effectiveness of the CMS. A project is underway to transform the CMS into

OIL & GAS – CONTINUED

a global tool, providing consistent and uniform approaches across all the platform's businesses.

All employees and direct-hire contractors have completed training on the CMS as part of the annual Code of Conduct training.

Risk management

Enterprise and business risks are actively reviewed and progress on mitigation actions is regularly monitored. The depressed and highly competitive business environment can result in new risks emerging, for example, some clients may require contractors to accept increased risk in project delivery for lower margins, competitors tender for projects below cost to secure work or enter new markets, and the award of projects is long or often delayed.

PROSPECTS

PNG offers an attractive environment for new developments and there are several new opportunities in the project pipeline, that the platform is pursuing. Smaller-scale greenfields and brownfields EPC opportunities are emerging in Australia and operators require innovative development solutions, which the platform is well positioned to deliver. Its strong focus on project execution and high-quality project delivery enables it to access scope growth on current projects.

Clough's successful track record in downstream and petrochemical work will enable it to compete for related opportunities across Southeast Asia and, in Indonesia, growth opportunities exist in gas/liquids-to-power projects, particularly regasification terminals.

In the USA, the focus on energy security will continue to strengthen the oil and gas shale markets and new exploration successes could present midstream opportunities to compress, process and transport gas from production sites to existing processing and export facilities. In Canada, new project opportunities continue to emerge in LNG facilities and associated infrastructure developments, albeit at much slower rates than initially projected.

Population growth in Nigeria and East Africa is driving expenditure on energy projects, and gas-to-power opportunities in South Africa and Mozambique continue to emerge as demand for energy increases. Europe's clean energy target is resulting in new markets for large-scale clean energy developments.

Opportunities exist in complementary markets such as Australia's mining and infrastructure markets and east coast state governments, particularly New South Wales, are developing many large infrastructure projects. Clough is positioned to pursue selected opportunities and has developed partnering strategies to support its delivery.

Internationally, the platform continues to work in collaboration with the Underground Mining platform to pursue brownfields EPC opportunities on the Oyu Tolgoi Expansion Project in Mongolia. These complementary markets will become important contributors to revenue in FY2018, while oil and gas markets remain uncertain.



ORRIE FENN
Business platform CEO

UNDERGROUND MINING

OVERVIEW

Businesses within the platform:

- CEMENTATION AG – SALT LAKE CITY, USA
- CEMENTATION CANADA – NORTH BAY, CANADA
- CEMENTATION USA – SALT LAKE CITY, USA
- MERIT CONSULTANTS INTERNATIONAL – VANCOUVER, CANADA
- MURRAY & ROBERTS CEMENTATION – JOHANNESBURG, SOUTH AFRICA
- RUC CEMENTATION MINING – PERTH, AUSTRALIA

“WITH ITS GLOBAL FOOTPRINT, AND THE ABILITY TO POOL AND LEVERAGE ITS RESOURCES, UNDERGROUND MINING IS WELL PLACED TO WIN WORK AND SUPPORT ITS CLIENTS DURING THE UPTURN.”

The Underground Mining platform's extensive geographic footprint covers six continents and its service offering spans the project value chain including specialist engineering, shaft construction, mine development, specialist mining services, including raise boring and grouting, and contract mining.

Recent projects include the construction and rehabilitation of 15 shafts and 21 decline projects in Canada, USA, Australia, South Africa, Zambia and Indonesia. The platform employs 54 raise and blind-hole boring machines globally, one of the largest fleets of large-diameter boring machines in the world. It has also sunk the deepest single-lift shafts in South Africa (South Deep: 3 000m) and the USA (Resolution: 2 100m), as well as the deepest secondary shafts in Canada (Kidd: 3 014m) and the USA (Hecla Lucky Friday: 2 922m).

On the back of strengthening commodity prices, the platform recorded a pleasing financial performance, countered by the continued focus by mining companies on capital preservation, which has limited the number of project opportunities associated with new mines. A major contributor to performance was the platform's success in securing ongoing infrastructure replacement projects and development spend ('stay-in-business capital') by mining companies.

UNDERGROUND MINING – CONTINUED

FINANCIAL

Revenues decreased to R8,0 billion (FY2016: R8,8 billion) and operating profit to R464 million (FY2016: R506 million). The order book was R17,5 billion (30 June 2016: R14,3 billion), bolstered by project awards in RUC Cementation Mining and Murray & Roberts Cementation in particular. The order book includes R4,8 billion for the Kalagadi Manganese project, which will commence shortly.

During the year, there were no loss-making projects in Murray & Roberts Cementation. Further, Booysendal delivered a much improved performance compared to the previous year, while Venetia continued to underperform. Murray & Roberts Cementation's African projects, outside of South Africa, all performed well.

After several years of strong growth, the North American operations delivered a mixed set of results. Cementation Canada's results were in line with its FY2016 performance, due to a lack of larger projects coming onstream. The decrease in revenue from Cementation USA is attributed to prevailing market conditions causing a delay or postponement of new projects and current projects coming to an end.

In Australia, market conditions improved, particularly in the gold mining sector and for large-diameter raise boring work. RUC Cementation Mining exceeded expectations and delivered results well above the previous year. This was on the back of scope growth on existing projects, supported by project performance and geographic diversification strategies.

LEADERSHIP

Strategy implementation

Underground Mining has a well-recognised and respected brand in Cementation, and a reputation as one of the world's leading underground hard rock mining contractors, with strong leadership in each business entity.

Key to the platform's growth strategy is developing 'life-of-mine' relationships with clients, working with them to provide a service over an extended period of time. This requires a focus on early client engagement through upstream engineering work, and establishing long-term, annuity income opportunities through downstream contract mining work. The platform has contract mining projects in South Africa, Australia, Canada, and the USA and aims to grow this portfolio across various geographies. Nearly 60% of the platform's order book is contract mining-based, 10% up on to the previous year, with the majority being for mid-tier mining clients. Significant capital has been spent to develop the Kalagadi mine and the manganese price has recovered in recent months. We are pleased to be mobilising to site soon, creating employment for hundreds of new employees.

Murray & Roberts Cementation is leveraging the capabilities of the platform's other businesses to enhance its competitive position. The company aims to further develop its trackless mechanised mining service offering, given the pipeline of opportunities to utilise this mining method. The Kitwe office in Zambia continues to demonstrate the success of the platform's Africa strategy to establish a local presence in targeted geographic regions, and Murray & Roberts Cementation is investigating partnerships with local companies in selected African regions to improve its prospects.

An important objective for Murray & Roberts Cementation is to continue to improve its risk, project and commercial management to maintain and enhance project margins. Project managers and support employees are required to complete a certified project management programme, aligned to the Murray & Roberts Project Management and Project Assurance Frameworks. The Project Management Office drives project management excellence through increased project oversight and assurance at all levels of operation. The absence of loss-making projects in FY2017 is evidence of Murray & Roberts Cementation's improved project management capability.

The platform has identified the Americas as a region for future growth, both organic and acquisitive. Cementation Canada has offices in North Bay, Quebec, Sudbury and British Columbia and operates from coast to coast. To bolster organic growth, Merit Consultants International, was acquired in November 2015 and provides a full range of project and construction management services to the global mining industry. Based in Vancouver, it establishes a west coast presence for Cementation Canada, providing further access to the mining industry in British Columbia and surrounding provinces.

Cementation USA is now established as one of the USA's leading mining contractors. In 2015, Cementation AG was established to provide an entry point into the mining and minerals bulk material handling sector above ground. Operating out of Salt Lake City, it is actively pursuing several projects on the continent.

Emphasis is on leveraging synergies between Cementation AG and Merit Consultants International, as well as across the portfolio of Cementation mining businesses, to increase the platform's service offering to clients worldwide.

In South America, progress in growing the platform's regional footprint met with limited success leading to the closure of the Santiago office in June 2016. Engineering, raise boring and other speciality work in the region is still being tendered for, with support from Cementation Canada and Cementation USA.

RUC Cementation Mining continues to expand and promote its mine development service offering, and is actively exploring opportunities to extend its operations in the Asia-Pacific region.

Leadership succession and development

Mike Wells was appointed managing director of Murray & Roberts Cementation, effective August 2017, succeeding Daniël Grobler who was appointed Group financial director effective April 2017.

Justin Oleson, previously president of Cementation USA, was appointed president of the Americas effective July 2017, succeeding Roy Slack. Roy, who will continue to oversee the Canadian operations, while also playing a key role in business development and engineering, pending his retirement at the end of the 2018 calendar year.

Leadership development remains a priority in line with the Group's Talent Management Framework. Talent reviews have assessed the strength of leadership and senior management succession, and developmental plans ensure the platform's leadership is empowered to deliver on its strategic objectives.

RELATIONSHIP

Competitive advantage is gained through the ongoing collaboration between the Underground Mining platform's businesses. The mechanised mining skills and expertise of the Australian operations, and specialised shaft sinking skills of the North American operations, continue to complement the capabilities of the South African operations.

In addition to the 'life-of-mine' strategy, which focuses on client relationships, maintaining positive employee relationships is also a focus area as this contributes significantly to project performance. Murray & Roberts Cementation has sound relationships with its industry unions, building on the three-year wage agreement signed in FY2016. To support its objective to create an environment that encourages engagement with employees, Murray & Roberts Cementation introduced an incentive scheme for organised labour based on the principle of higher pay for higher productivity. Agreements have been successfully concluded with the unions representing the majority of employees. Cementation Canada has been recognised six times as one of Canada's Top 100 Employers by Mediabase, and twice as one of The Financial Post's Ten Best Companies to Work For.

The shortage of production, engineering and technical skills, particularly in South Africa, as well as the movement of skilled staff between employers remains a concern. To address this, Murray & Roberts Cementation is focusing on retention, skills development and establishing a strong succession pipeline. It has also developed a pool of internal

and external candidates possessing the required skills needed in the business. Of the 740 potential candidates, 86% are black (African, Coloured and Indian) and of all targeted placements in the last 12 months, 73% have been sourced from this pool.

Murray & Roberts Cementation's world-class training facility at Bentley Park is accredited by the Mining Qualifications Authority to provide engineering, mineral extraction, and occupational health and safety training.

Murray & Roberts Cementation continues to make significant investment in skills development among unemployed members of local communities. These interventions provide people with the opportunity to gain safety and technical skills qualifications, endorsed by the Mining Qualifications Authority, enhancing their ability to potentially find work in the mining industry.

In South Africa, transformation and diversity remain key focus areas, and Murray & Roberts Cementation achieved a Level 4 rating under the generic codes. Black representation at top management level continues to be a challenge. During the year, 97% of promotions into junior management levels and 100% into middle management levels were black employees.

Broader stakeholder relationships are a prominent feature of securing work in certain jurisdictions. Cementation Canada has established several partnerships and JVs with First Nation groupings in Canada and with local companies in



UNDERGROUND MINING – CONTINUED

Mexico and certain South American countries. In Mongolia, RUC Cementation Mining and Clough have partnered with a local contracting company and successfully tendered on work at Rio Tinto's Oyu Tolgoi copper mine, which is transitioning from open pit to underground operations.

OPERATIONAL

MURRAY & ROBERTS CEMENTATION

SOUTH AFRICA

- The Venetia project for De Beers performed below expectation, affected by community unrest, Section 54 stoppages and low productivity levels. Initiatives are underway to restore tendered margins, specifically on the vertical shafts where the Canadian method of shaft sinking has proved challenging in South African conditions.
- The Boaysendal project delivered a much improved performance with production exceeding targets. Murray & Roberts Cementation was awarded phase 1 of the project to develop the Boaysendal Central Mine, with the first blast of one of several declines undertaken in May 2017.

ZAMBIA

- Successfully completed the Bulk Air Cooler ventilation project at Mopani Copper's Synclinorium mine.
- Continued to perform well on the shaft sinking and mine development projects at the Mufulira mine with further development work recently awarded.



RUC CEMENTATION MINING

Raise boring activity increased during the year with excellent fleet utilisation and a large pipeline of near-term opportunities.

AUSTRALIA

- Secured a significant three-year contract for underground mine development and production at Dacian Gold's Mt. Morgans mine in Laverton, with an option to extend the contract for a further two years. This is a major milestone in RUC Cementation Mining's transformation from a mid-tier to top-tier mining contractor in Australia.
- Work at Saracen Mineral's Karari gold mining project continued to expand with a ramp up in production.

INDONESIA

- A government ban on the export of copper concentrate resulted in a temporary reduction in production and staffing levels on the Freeport project. The ban has since been lifted and, in June 2017, RUC Cementation Mining was awarded a further increase in the scope of work.

MONGOLIA

- In a JV with Clough and a local Mongolian company, RUC Cementation Mining secured work at Rio Tinto's Oyu Tolgoi copper mine, a project that presents future growth opportunities.

CEMENTATION CANADA

CANADA

- Good performances were achieved on Compass Minerals' Goderich shaft rehabilitation, Rio Tinto's Diavik contract mining project and Pretivm Resources' Brucejack gold mine development contract. However, the follow-up contract mining work at Brucejack was awarded to the prior contractor.
- Commissioned a new CAD\$10 million maintenance and storage facility in North Bay, which replaces Cementation Canada's existing workshop in Thompson Manitoba.

CEMENTATION USA

NORTH AMERICA

- Continued work at Lundin's Eagle Mine and awarded a contract to develop a further decline project for the mine.
- Awarded the shaft 9 rehabilitation contract for Rio Tinto/BHP's Resolution mine in Arizona.

MERIT CONSULTANTS INTERNATIONAL

- Secured its first significant project since it was acquired, a three-year construction management contract in Columbia, and it is actively pursuing several other projects in the Americas.

RISK

Safety is a priority for the platform and its clients with many projects delivering 'best-in-class' safety performances. The platform implements the Group's HSE Framework and measures its safety performance using both lag and lead indicators. No fatalities were recorded during the year; a first for the platform and a significant achievement considering the scope of work delivered globally. In June 2017, the platform achieved 20 months without a fatality.

LTIFR and TRCR showed an improvement with an industry-leading 1.2 and 7.7 respectively (FY2016: 1.2 and 7.6) based on one million work-hours. The injury severity index and the number of high potential incidents also showed a decrease over the previous year as the platform continued to implement the MAP Programme, designed to prevent serious incidents and fatalities on projects. The platform continually seeks to address differences in safety performance between the South African and International operations by identifying and sharing best practices.

Murray & Roberts Cementation, Cementation Canada, Cementation USA and RUC Cementation Mining are OHSAS 18001, ISO 9001 and ISO 14001 accredited. No environmental issues were encountered during the year.

Each business has its own risk register, which is reviewed and updated monthly, and the platform CEO reviews the overall risk profile on a quarterly basis for discussion at Murray & Roberts Limited's risk committee. All project opportunities are logged on the OMS, which tracks and processes opportunities and subjects them to a series of risk tolerance filters to develop a project-by-project risk profile. Projects that do not meet the requisite risk profile are presented to the risk committee for approval.

To manage concentration risk in the client base, the overall project portfolio covers a wide spread of commercial and contractual arrangements. In South Africa, the lack of specialised contracting and shaft sinking skills, which directly impacts the platform's and the clients' ability to deliver on projects, is considered a key risk area, particularly in a high-growth scenario. The ongoing threat of industrial action and community unrest in South Africa are also key risks.

PROSPECTS

Mining is a cyclical business with deep troughs and high peaks. After the commodity super cycle peaked in 2011, the mining industry was forced into a preservation cycle and, from 2013, major mining companies reduced capex by up to 60%.

For the first time in five years, the industry appears to be moving into an upturn. Various research reports indicate that demand for commodities is anticipated to grow in the short term on the back of an increase in commodity prices and supply and demand dynamics.

Many new large opportunities are presenting themselves in sub-Saharan Africa and the Americas; and engineering-led international opportunities outside of the Americas are increasing, as well as large hole raise boring and shaft sinking prospects in Australasia.

In countries and regions where current mining activity is high, there is a large investment pipeline of underground mining projects. This is projected to increase in the future, and the platform is active in these areas and positioned to take advantage of any upturn in the commodity cycle. Most key commodities are represented in the current portfolio of projects.

There is substantial scope for organic growth within the platform, as mining companies continue their ongoing infrastructure replacement brownfields spend to sustain their operations and as greenfields expansion increases to meet future demand. With its global footprint, and the ability to pool and leverage its resources, Underground Mining is well placed to win work and support its clients during the upturn.



STEVE HARRISON

Business platform CEO

POWER & WATER

OVERVIEW

Businesses within the platform:

- **MURRAY & ROBERTS POWER & ENERGY** – primary focus on the power sector but also operates in other complementary markets (oil and gas and resources and minerals)
- **MURRAY & ROBERTS WATER** including its subsidiary Aquamarine – specific focus on water and domestic and industrial wastewater treatment

"GIVEN THAT THE PLATFORM'S CAPACITY OVER MOST OF THE PAST DECADE HAS BEEN LARGELY DEDICATED TO THE POWER PROGRAMME, A KEY PRIORITY IS TO RE-ESTABLISH ITSELF AS A CONTRACTOR OF CHOICE WITH NEW CLIENTS IN THE BROADER POWER AND WATER SECTORS."

The Power & Water platform's service offering includes feasibility studies, detailed engineering, procurement, construction, commissioning, and repairs & maintenance work. Contracting models include EPC and the more traditional SMEIPP construction services. The platform's capacity and capability is complemented by key strategic partnerships.

Murray & Roberts Power & Energy's revenue for FY2017 continued to be underpinned by the mega power station projects at Medupi and Kusile, referred to as the power programme, where Murray & Roberts Power & Energy is the main boiler erection subcontractor for Mitsubishi Hitachi Power Systems Africa. Other significant power projects during the year included the refurbishment of Morupule A power station in Botswana and the construction of two wet flue gas desulphurisation units at Kusile.

Sasol is an important client for the platform and during the year Murray & Roberts Power & Energy continued to deliver on the VOC project in Secunda, and a number of shutdown projects. In the final quarter of FY2017, Murray & Roberts Power & Energy was awarded the CTF East project and the electrical and instrumentation services for Air Liquide on their 17th oxygen train for Sasol will continue into FY2018.

Murray & Roberts Water successfully delivered the Bakubung Mine membrane bioreactor wastewater treatment plant for Wesizwe Platinum and concluded several strategic agreements.

The platform leads Murray & Roberts' focus in West and East Africa with offices in Ghana and Mozambique. Murray & Roberts Ghana successfully concluded an EPC fuel storage project in the Takoradi Port during FY2017 and follow-on projects are under development. Several opportunities in Mozambique are being monitored and the platform expects to secure project work in the medium term.

All legacy projects were closed out during the year, with final negotiations leading to acceptable outcomes. The biggest challenge facing the platform is its ability to secure replacement work following the completion of the power projects in FY2019.

FINANCIAL

The power programme remains the largest contributors to the platform's revenue and profit. Revenue increased to R5,9 billion (FY2016: R4,3 billion) and the order book decreased to R3,7 billion (FY2016: R6,7 billion) as both the Medupi and Kusile projects near completion. The platform recorded an improved operating profit of

R171 million (FY2016: R27 million). Overhead costs were reduced during the year and all projects, barring one, were profitable. Increased profitability is due to the corrective actions taken in FY2016, particularly in terms of project, commercial and overhead cost management.

LEADERSHIP

Strategy implementation

Significant time has been invested in developing the platform's strategy, supported by detailed execution plans. Given that the platform's capacity over most of the past decade has been largely dedicated to the power programme, a priority is to re-establish itself as a contractor of choice with new clients in the broader power and water sectors. Murray & Roberts Power & Energy is committed to securing an order book to replace work on Medupi and Kusile, which is expected to be substantially completed in FY2018.

The platform's objective is to grow business initially in sub-Saharan Africa and at a later stage in selected international markets. A substantial pipeline of opportunities in sub-Saharan Africa has been identified in the near and medium term, however competition in this market continues to be fierce.

Strategic partnerships are a key focus for the platform as they enable it to develop new business opportunities and secure selected technologies to extend its service offering to new project life cycle segments.

In June 2017, Murray & Roberts Power & Energy signed a strategic cooperation agreement with Shanghai Electric, a mechanical and electrical equipment manufacturer. The company develops equipment for power generation, power transmission and distribution, electromechanical integration, and transport and environmental compliance. Shanghai Electric's product range includes power generation equipment (boilers, gas turbines, steam turbines, and generators), heavy castings and forgings, wind turbines, pressure vessels and water treatment systems. The cooperation agreement applies to project opportunities in sub-Saharan Africa and includes combined EPC offerings, as well as products and services.

Murray & Roberts Water is targeting opportunities in the industrial sector with a specific focus on security of water supply, the reuse and recycling of effluent and sea water desalination. It also offers innovative municipal wastewater treatment technologies, industrial modular water treatment plants and acid mine drainage. Desalination in particular will assist to combat ongoing drought conditions and provide long-term water security as South Africa heads for a water deficit by 2030.

Opportunities are being explored through the platform's strategic partnerships with:

- ▶ **Hyflux:** large-scale sea water desalination.
- ▶ **Organica:** innovative solutions for localised treatment and recycling of wastewater.
- ▶ **Osmoflo:** emergency deployment of containerised medium-sized sea water desalination plants.
- ▶ **Aquamarine:** small-scale plants for industrial effluent treatment and sea water desalination.

Leadership succession and development

The executive team was strengthened by the appointment of new functional heads for human resources, business development, commercial, estimating and procurement. Strategy and implementation plans are developed by the platform's leadership and then cascaded down using a structured performance management process ensuring alignment at all levels.

Leadership development and succession is a focus, and following a talent review the platform has identified its top 20 high-potential individuals, many of whom started their careers as graduates with Murray & Roberts and have gained their experience on the power programme. To assist the transition of these individuals into more senior managerial roles, a mentorship programme has been introduced to develop their leadership skills. In FY2018, the platform will undertake a talent review at junior management and supervisory level to identify the top talent to be fast-tracked into middle management, with a specific focus on diversity and transformation.

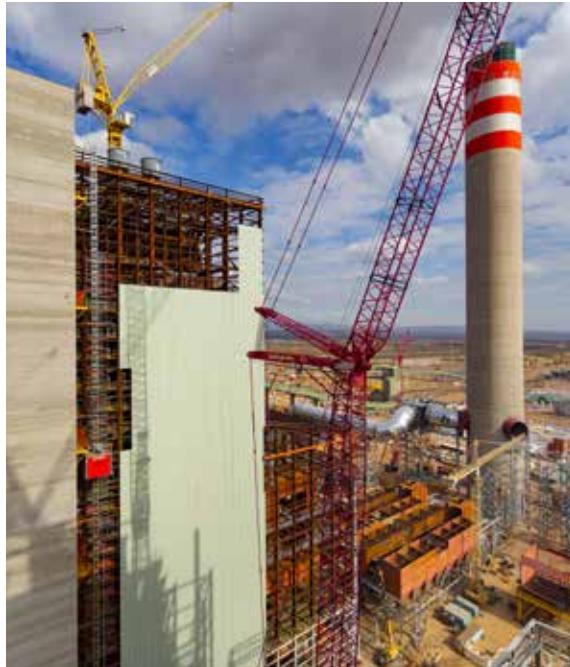
RELATIONSHIP

Strong stakeholder relationships are important to the platform as a deep understanding of stakeholder concerns mitigate risk and develop opportunities through strategic partnerships.

As a South African-based business, transformation remains a priority and during FY2017, a black-owned business-consulting firm was engaged to assist the platform with its transformation performance. At executive committee level, two appointments were black (African, Coloured and Indian) candidates and black representation at senior management level increased to 18% from 5% in FY2016.

Skilled and experienced employees are imperative for successful project delivery, which has driven an increase in employee headcount to around 6 840, of which 190 are

POWER & WATER – CONTINUED



based at head office and provide operational, functional and commercial support. As a project-based business, around 6 460 employees are employed on limited duration contracts, allowing for flexibility in scaling business capacity up or down as required.

Skills transfer and development remain important issues for organised labour and the platform, and a strategic imperative is to develop a cohort of high-performing artisans and supervisors.

In FY2017, the platform spent R62,6 million (FY2016: R62 million) on skills development with 97% of this investment going towards technical upskilling through targeted learnerships and apprenticeships at semi-skilled and unskilled levels. On the power programme, 1 515 learners have been trained to date with 118 learners currently undergoing training. This is a proud achievement for the platform and a significant social contribution in terms of employee development and supply of skill in the broader industry.

The platform's bursar and graduate development programme prepares young engineers for the work environment, and the internship programme based at head office provides technical training and leadership development skills through various programmes.

Power & Water's partnership with Raizcorp, a business incubator in Africa, develops a pool of entrepreneurs in the market and supports the platform's enterprise development initiatives. Companies and entrepreneurs participating in the programme are measured on turnover growth and their contribution to job creation.

OPERATIONAL

Governance processes were enhanced during the year, with more robust executive oversight on project performance. There has been a considerable improvement in project delivery with only one loss-making project. An improved Project Management Framework, which includes assurance over critical controls, was developed and will be implemented fully in FY2018.

MURRAY & ROBERTS POWER & ENERGY

- Significantly advanced the mechanical boiler construction on the power programme. At Medupi, Units 4 and 5 were synchronised to the grid on a test basis and have joined Unit 6 in commercial use. Unit 3 has been hydro tested and is ready for chemical clean. At Kusile, Unit 1 was successfully synchronised to the grid on a test basis in December 2016 and Units 2 and 3 have been successfully hydro tested with Unit 2 ready for chemical clean.
- Consolidated capacity and capability for the oil and gas market at the Secunda premises with a primary focus on providing Sasol with structural, mechanical and piping construction services.
- Tendered for several sizeable opportunities in the sub-Saharan Africa refined products storage sector. Possible awards are expected early in FY2018 and additional opportunities are being monitored.
- Provided electrical and instrumentation services on projects in South Africa and Ghana. High voltage transmission and distribution, a new service offering in this sector, will be provided through the cooperation agreement with Shanghai Electric Group.

MURRAY & ROBERTS WATER

- Established a partnership with RMB, which offers industrial users a water security and reuse solution at a predetermined cost for treated water. The partnership will design, own, operate, maintain and fund water treatment plants. Potential clients have expressed a keen interest.
- Agreed to install a Organica Wastewater treatment pilot plant at Verulam wastewater treatment works for the eThekweni Municipality.
- Successfully delivered a membrane bioreactor wastewater treatment plant for Wesizwe Platinum in Bakubung.

GHANA & MOZAMBIQUE OPERATIONS

- Successfully completed a fuel storage tank project for GOIL at Takoradi Port in Ghana and new prospects in Ghana are being pursued.
- In Mozambique, the platform is exploring conventional construction services, transmission and gas-to-power opportunities with local Mozambican entities as partners to ensure compliance with the country's localisation requirements.

RISK

Safety is a priority for the platform and it is committed to the Group's safety vision, "Together to Zero Harm".

For FY2017, the platform's health and safety performance showed a marked improvement. The LTIFR decreased to 0.43 (FY2016: 0.70), equating to nine LTIs with more than 20 million work-hours worked. Considering that thousands of employees are engaged in high intensity and potentially dangerous work on a daily basis, this is a remarkable achievement. All of the platform's businesses are OHSAS 18001, ISO 9001 and ISO 14001 accredited.

The MAP Programme has been implemented on the power programme with immediate success. Medupi's total incident

rate has significantly reduced and the project was awarded the Group CE Award for the best MAP implementation in the platform for FY2017.

An enhanced Behaviour Based Safety system is being developed with Sasol Group Technology and other nominated contractors working at Sasol, and will be completed by December 2018.

No reportable environmental incidents were recorded for the year.

Improvements have been made to business risk and opportunity management through the formalisation of management processes that cover project, functional department and platform risk.

PROSPECTS

The completion of the power programme at Medupi and Kusile will create capacity to provide maintenance services through the platform's skilled and experienced workforce. This capacity is also transferable to South Africa's IPP coal base-load opportunities. The platform is engaging with the selected EPC contractors on two major projects.

Opportunities also exist in the REIPPP programme, with the Power & Water platform being positioned to secure work in the gas-to-power and solar (LNG Power Producer Procurement Programme: Coega (1 000MW) and Richards Bay (2 000MW) sectors. Government's delay in signing off these projects is disappointing.

Obtaining preferred bidder status on the George Biomass project was an important achievement and comprises full project life cycle participation. Murray & Roberts Limited holds an equity position in the project and continues to seek additional projects where it can invest in development and equity ownership, to create additional project opportunities for the platform.

The platform's investment in Secunda, recent project delivery success and HSE initiatives, have positioned it as an important service provider to Sasol. This oil and gas delivery model will be extended to Sasol's facilities in Sasolburg.

It is likely that emergency water situations will continue to arise in parts of South Africa. Aquamarine's small capacity water treatment plants can be quickly deployed at short notice and water quality and quantity are guaranteed. In addition, Murray & Roberts Water's exclusive strategic partnership with Osmoflo allows the rapid deployment of medium-sized sea water desalination plants.

Opportunities are expected in wastewater treatment due to increasing environmental pressure to upgrade dysfunctional treatment plants and reuse treated effluent. Growth is also expected in the industrial sector as businesses look to secure water and reduce water costs through reuse and recycling. Aquamarine's containerised water and wastewater treatment solutions are highly transportable and rapidly deployed, providing an opportunity for broader market participation.

An Organica demonstration wastewater treatment plant will be commissioned later in the year and operated for 12 months at Verulam wastewater treatment works for the eThekweni Municipality. This should stimulate the uptake of this unique technology. A feasibility study is in progress for Life Health to provide water security and recycling solutions to their hospital facilities countrywide. Subject to favourable feasibility results, the project is expected to commence towards the end of the 2017 calendar year. Most of the equipment for these solutions will be supplied by Aquamarine, which has the potential to transform Murray & Roberts Water's growth prospects.

Growth will be mainly organic, supported by strategic partnerships that position the platform for opportunities and expand and complement its existing service offering.