



Annual Report 2015/2016



Centre for Appropriate
Technology Limited

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WHO WE ARE

TECHNOLOGY // INNOVATION // ENTERPRISE

The Centre for Appropriate Technology Limited (CAT Ltd) is an Aboriginal and Torres Strait Islander owned not-for-profit business. Ekistica Pty Ltd is its wholly owned multi-award winning commercial engineering consultancy trading as CAT Projects.

CAT Ltd is based in Alice Springs with a national focus – currently undertaking projects across Central and Northern Australia (WA, NT, Qld and SA). CAT Ltd has a proven track record of implementing highly successful partnerships and technology solutions with Aboriginal and Torres Strait Islander communities. Success is built upon effective Aboriginal community engagement and true collaboration in decision making, planning, implementation and assessment. CAT Ltd is also a Registered Training Organisation (RTO). We have a long-standing position of being independent of any political party or association.

Ekistica Pty Ltd specialises in remote and urban area project management, energy and power system engineering and stakeholder management across both Australia and the Asia Pacific Region. Ekistica Pty Ltd exports the IP and technologies developed in partnership with Aboriginal and Torres Strait Islander communities to address remote area needs in Australia and overseas.

The two companies combined have 54 Staff and \$8.7M turnover. Thirty three percent of staff are Aboriginal or Torres Strait Islander.





OUR VISION

Sustainable and enterprising communities of Aboriginal & Torres Strait Islander people underpinned by appropriate 'fit for purpose' technology.



OUR MISSION

Through our unique knowledge of and engagement with remote people and place we will deliver practical, integrated project design, technical innovation, training & infrastructure products & services — supporting livelihoods & growth in economic opportunities across remote areas.



WHAT WE DO

From its establishment in 1980 CAT Ltd has grown to become a leading Aboriginal and Torres Strait Islander science and technology business specialising in providing appropriate technology and service delivery solutions across remote Australia. We combine our unique understanding of remote contexts and their development challenges with technical expertise to deliver the enabling technology platforms that support social and economic empowerment.

The scope of CAT Ltd's activities ranges from local engagement with people and place to delivering robust technical advice, design and project implementation. We link Aboriginal and Torres Strait Islander people with knowledge and skills to stimulate innovation and enable sustainable solutions. Our work spans the fields of water, renewable and isolated energy systems, telecommunications, community infrastructure and accredited training.



HIGHLIGHTS

The BEEBox

A specialist energy use interface (the BEEBox) was developed by Ekistica Pty Ltd & CAT Ltd and used extensively throughout the Manymak Energy Efficiency Project. The BEEBox is an intuitive user interface that assists residents to manage and conserve household energy consumption. It was installed into 252 households through this project.

Through the project evaluation, BEEBoxes were shown to help reduce the total energy cost for households, as well as reducing the frequency and rate of power disconnections caused by running out of power card credit.



The NT Training Awards

A training collaboration between the Motor Trades Association (NT), the NT Department of Correctional Services and the Centre for Appropriate Technology was recognised as the winner of the Industry Collaboration category at the NT Training Awards announced November 2015.

Anerle-aneme chair at the 2016 Venice Architettura Biennale

Sixteen Anerle-aneme chairs are on display at the 2016 Venice Architecture Biennale which opened on the 28 May and runs until November 2016. The chairs are designed by Alice Springs based designer Elliat Rich and hand-made by Aboriginal staff in the CAT Ltd Enterprise Workshop. The chairs were commissioned by the Creative Directors of Australia's Exhibition – Aileen Sage Architects (Isabelle Toland and Amelia Holliday) with Michelle Tabet – for their exhibition The Pool – Architecture, Culture and Identity in Australia.



HIGHLIGHTS

The Homelands & Outstations Asset & Access Review

CAT Ltd undertook the Review during 2015, visiting 401 Homelands/Outstations across the NT at the instigation of the Commonwealth and Northern Territory Governments. The project provides a comprehensive snapshot of physical assets and social service access on Homelands. For example:

- 55% of funded communities have 'safe' (low risk) water quality
- 38% have sewerage that is maintained effectively
- Less than 1% do not have access to education
- Less than 2% do not have access to health services
- 80% have access to 24 hour power
- The majority of Homelands residents contribute both time and their own money in managing and maintaining assets and services.

CAT Ltd has data on 401 Homelands/Outstations in the Northern Territory and is able to provide further analysis on request.





The HotSpot program

A highlight of the HotSpot program during the year was the very successful 'enhanced HotSpot' installed for the Finke Desert Race. This HotSpot strategically placed 60 km south of the Alice Springs starting point has enabled spectators to communicate from places further down the race track for the first time. The HotSpot was used by over a hundred callers during the race weekend, including one occasion where it was used to make an emergency call for the race ambulance. Local Aboriginal residents also use the site during normal travel up and down the Old South Road, and have asked that it be made permanent.

The other twenty-two HotSpots have also been well used. Sample measurements taken at several highway overnight stop sites showed that an average of around 20 calls had been made per day over a two month period at each station, during the tourist season.

John Villiers Trust: Live and Thrive On Country

For two years CAT Ltd has been evolving the 'Live and Thrive on Country' Program in QLD. This program is funded by the John Villiers Trust and underpins the majority of projects and work undertaken in QLD. The premise of this program is that CAT Ltd is in a unique position to assist Indigenous groups with aspirations to create livelihoods on country. We help improve the condition of infrastructure that enables planning for economic development and underpins livelihood outcomes and job creation from their traditional land. Funds for the time and costs required to initiate and develop such worthy projects are very difficult to secure. This funding has provided CAT Ltd staff in QLD the flexibility and resources to engage with communities, develop ideas, address critical issues, leverage and extend funding for a range of high impact projects.



THE CHAIRMAN'S REPORT



The Board of Directors of CAT Ltd have stabilised the organisation and are now in the next planned phase. The Board feels that we have been able to successfully transition CAT Ltd to an openly contestable organisation where we are actively competing on the open market and are able to win tenders and contracts based on our own merits. We have matured as an organisation and have

maintained and gained the confidence of Governments and commercial operators who value our professionalism and ability to deliver in a difficult space.

We have steered the organisation to be more business minded in our approaches to supporting communities and Governments. We have actively sought to get better utilisation of our assets to ensure our operations are maintained either through leasing arrangements or development opportunities. Our Aboriginal employment outcomes have lifted from 30% to 45% and we are seeing great outcomes across all levels of CAT Ltd including senior management. Although our audited end of year results are quite sobering, because of a deficit there are relevant reasons around why this has occurred. Our last tranche of Technical Resource Group funding was delayed through deliberations at the Federal Government level and through no fault of CAT Ltd. We are pushing senior

management to produce a surplus this financial year. The key performances indicators we have set for the CEO are reflective of the organisation as a whole and staff will have to work very hard to get back to surplus next year.

The Board also set out to get a more streamlined approach to the workings of the CAT Ltd Company Group and are very pleased that there has been better utilisation and resource sharing between the parent company CAT Ltd and vice versa with our wholly owned subsidiary Ekistica Pty Ltd.

The CAT Ltd Board has been actively searching for new Board members and will be presenting potential Directors in the near future to ensure our Board maintains balance, professional integrity and input from a diverse geographic spread.

Highlights for this year from the Board are stabilising of the workshop operations and the expansion of the work coming in through the workshop door either by internal opportunities or the strong technical partnerships developed with external agencies such as the Central Land Council. We would like to congratulate and acknowledge the hard working crew who have risen to the challenge in the workshop who have been completing outstanding projects to a high standard, and they are emerging stars on the social media stage as well ... Well done fellas!

Particularly pleasing for the Board has been the expansion of the activity across the Desert Peoples Centre site with abundant training and employment

outcomes. We are seeing that the next generation of emerging Aboriginal leaders are finding safety, security and a supportive learning environment that appeals to them, is centrally located yet far enough away to avoid distractions that is located on a visually stunning site. CAT Ltd members and Directors can feel proud that their early vision for the site is really bearing fruit.

Linking up with, partnering and responding to large commercial and Government agencies tendering processes has shown that CAT Ltd has matured as an organisation and is now capable of existing in a different space to its traditional grounding. This does not come at the expense or neglect of our Aboriginal heritage or our commitment to Aboriginal communities. We need to survive without the previous long term support from Government that we have become accustomed to as an organisation. It means that we will remain front and centre with Aboriginal communities to respond and support what their needs are in a challenging environment. We have to work smarter and more efficiently to ensure we can respond when community calls.

The Board looks forward to an exciting future with a refocussed and rejuvenated approach to supporting Indigenous communities across Australia.

A handwritten signature in black ink, reading 'Peter Renehan'.

Peter Renehan, CAT Ltd Chairman



THE CEO'S REPORT



This year has been a major period of transition for CAT Ltd. Our new five-year strategic plan (2016-2021) was approved by the Board of Directors at its December 2015 meeting. Our forward strategy is focussed on the necessity for CAT Ltd to transform the way it does business detailed in four strategic goals. Transition to a successful enterprise based NFP business; Further establish CAT Ltd as remote technology innovation leader; Maximising ATSI employment and Building training and skills development outcomes. We have to be more business-like, responsive to new and emerging opportunities and more efficient in the way we work whilst still achieving our vision.

A key strategic driver for CAT Ltd is to sustain its core operations without ongoing funding from government support. In order to achieve this CAT Ltd must transition to a not-for-profit enterprise, based on securing contestable activity/project based funding. All governments are taking an 'open market' approach through contestable 'requests for quote' to deliver procurement of goods and services. In responding to an open request for quote CAT Ltd was awarded the contract for the NT Power and Water Solar SetUp community engagement program with 15 communities in the Central and Katherine regions

and the development of all materials for the community engagement program across the NT. Solar SetUp is a major investment in solar PV to augment conventional generation capacity in 35 of the larger remote Aboriginal communities in the NT.

One of our strategic goals is to achieve structural change within the organisation with greater operational integration of CAT Ltd and our wholly owned subsidiary Ekistica Pty Ltd under a company group structure to achieve a more efficient utilisation of capacity and capability across the two companies. I'm pleased to report that we have already achieved greater sharing of resources, with staff working on projects between the two companies. For instance, CAT Ltd were awarded a contract by Geoscience Australia to project manage installation of a new 9m Viasat satellite dish on their site at Heath Road, CAT Ltd in turn sub-contracted to Ekistica Pty Ltd to provide this service.

CAT Ltd is a small organisation and development of strategic partnerships with other organisations with shared values in our marketplace is a key strategic goal. Opportunities were identified for partnering in two Northern Territory Government (NTG) tender calls with the global consulting and professional services company Ernst and Young (EY). Both organisations see significant opportunity in combining our complementary skills and capability. Proposals were submitted for the proposed

Northern Territory Town Camp Review Expression of Interest and the Establishment of the NT Remote Housing Development Authority. The outcome of both submissions is still pending at the end of the reporting period.

In terms of further establishing CAT Ltd as remote technology innovation leader, I'm pleased to report that an outstanding achievement this year has been the significant roll out of our mobile phone HotSpot technology. CAT Ltd was awarded funding through the NT Department of Corporate and Information Services (DCIS) for a pilot program to install 22 HotSpots in Central Australia over two years. The first 11 were installed during the reporting period at tourist attractions, roadside stops and Aboriginal communities. CAT Ltd also received funding through the Aboriginals Benefit Account to install 10 HotSpots in Aboriginal communities in the Hermansberg, Papunya and Utopia regions. Towards the end of the reporting period CAT Ltd secured further DCIS funding to commence HotSpot installation in the Top End of NT, and with the Numbulwar Homelands Aboriginal Corporation, IAS funding for installations in the Gulf region.

A core determinant of success in a company focusing on technical innovation is to always be planning for the future, and developing the next generation of technological solutions. To this end CAT Ltd was awarded funding from the NTG Department of Business, Business Innovation and Support Initiative, to develop the Mark



II HotSpot technology, aimed at extending the range of mobile coverage. Both versions of the HotSpot are also now subject to international patent protection.

CAT Ltd fabrication capabilities were highlighted on the international stage with the inclusion of 16 metal chairs in the Australian Pavilion at the 2016 Venice Architectural Biennale. The Anerle-aneme Chairs designed by Alice Springs designer Elliat Rich were fabricated by our fabrication team and showcase collaboration between Aboriginal and non-Aboriginal Territorians, and the custom 'high end' fabrication skills of our Aboriginal fabrication workers. In a similar vein CAT Ltd has worked with the artistic director of the Parntjima Festival of Light to be held in Alice Springs in September 2016 to design and fabricate metal frames for the lighted fabric skirt installation. Both these examples demonstrate that CAT Ltd is actively diversifying our fabrication product range and markets.

An important delivery highlight for the year was the completion of the NT Homelands and Outstations Asset and Access Review involving housing and infrastructure inspection and interviews with residents in 401 communities. A report and database detailing individual asset condition of infrastructure, housing and homeland/outstation residents access to services was delivered to NT and Commonwealth Governments.

Our training team continues to deliver accredited 'on the job' training to Aboriginal people in remote

communities. We delivered Certificate I and Certificate II Automotive Vocational Preparation training to trainees from NT Correctional Services based in Alice Springs were awarded the Industry Collaboration Award in the 2015 NT Training Awards through our partnership with the Motor Trades Association NT.

However, whilst there are many outstanding highlights this year, our ongoing transition from a government funded entity to an enterprise not for profit business has come at some cost to the business, most critically a significant operating loss this financial year. Whilst this was partly due to a major delay in securing agreement on the project scope for a large government funded project, it is also the result of not achieving the external income to cover the operating costs of the organisation. Strategies are in place to rectify this situation the organisation is placing much greater focus on responding to tender requests across multiple Northern Australia States and Territories, maximising the return on external contracts through a revised costing and pricing structure, driving internal efficiencies and effectiveness within the CAT Ltd Group through the development of robust administration, financial, HR and asset maintenance systems and quality-driven procedures which support the achievement of strategic and operational priorities. We are increasingly utilising our capacity and assets to achieve external income. CAT Ltd was awarded the facilities management

contract for the Geoscience Australia satellite ground station site at Heath Road, and our IT group has been successful in developing a business hosting IT servers for organisations in Alice Springs. We have also been successful in renting out vacant office space at our Heath Road site to third parties, these opportunities provide an ongoing income to the organisation.

Management recognises that organisational transition of this nature is never a simple task and can be challenging. It requires a major cultural shift within the organisation, and for individuals to embrace a different way of operating that still delivers benefit to our stakeholders and clients. I would like to take the opportunity to thank all CAT Ltd staff for continuing to deliver high quality project outcomes during this transition.

I would also like to thank the Board of Directors and our Chair Peter Renehan for their ongoing support and commitment to the organisation, and their guidance and counsel during the year.

Steve Rogers CEO

OUR STRATEGY

The 2016/2021 CAT Ltd Strategic Plan defines how the organisation will transition over the next five years. It provides a roadmap to ensure that CAT Ltd is a sustainable entity that will grow its role and influence as a leading Aboriginal & Torres Strait Islander science and technology business, specialising in providing appropriate technology & infrastructure solutions across remote communities & regions.

Our four strategic goals are:

1 Transition to a successful enterprise base not-for-profit business.



3 Maximise Aboriginal & Torres Strait Islander employment.



2 Further establish CAT Ltd as a remote Technology innovation leader.



4 Build training or skills development outcomes.

OUR CAPABILITIES



1

Technology innovation and application.



4

Place based accredited training, skills development and capacity building.

2

Applied project design, management & professional services.



5

Aboriginal & Torres Strait Islander enterprise and jobs.



3

Community engagement, planning and facilitation.



6

Infrastructure design, engineering, construction and fabrication.

PROJECTS

Designed and made to ‘sit a little while’ – in Venice!

The first prototype of Elliot Rich’s design for the Anerle-aneme chair was made in the CAT Ltd Enterprise Workshop in 2013. Two years later, the chair was spotted by the Creative Directors of Australia’s exhibition at the 2016 Venice Architecture Biennale – Alieen Sage Architects (Isabelle Toland and Amelia Holliday) with Michelle Tabet. They were looking for a product that spoke to the themes of cultural diversity and social exchange, integral to their exhibition design, that would fit with the swimming pool they were planning to build in Australia’s Pavilion in Venice. Sixteen chairs were subsequently commissioned for The Pool – Architecture, Culture and Identity in Australia.

The chair was initially showcased in Sydney at the official preview and launch of the companion publication of the Exhibition in March, at Icebergs Bar and Restaurant in Sydney’s Bondi Beach. Five CAT Ltd staff members were able to attend the event and the Aboriginal staff members responsible for hand making the chairs were warmly acknowledged. The Venice Biennale officially opened on May 28th and runs through to November 2016 and the sixteen chairs have been warmly received and well used. Anerle-aneme means ‘sit a little while’ in the Arrernte language of central Australia.

The Elliot–CAT Ltd collaboration has since engaged the interest of a large multinational Property Development Company. Commissions for products designed by Elliot and fabricated in the CAT Ltd Enterprise Workshop for some of their development precincts around the country are underway.





[Watch the *Anerle aneme* video on Vimeo](#)

READ MORE ONLINE:

[The Australian Pavilion at the 2016 Venice Biennale of Architecture by Stuart Harrison at TheDesignFiles.net](#)
[Australia's Pavilion at Biennale Architettura explores Aussie cultural identity through The Pool at architectureanddesign.com.au](#)

['The Pool' at the Venice biennale by Jaynie Anderson at TheSaturdayPaper.com.au](#)



Rolling out the HotSpots: NT Government and ABA funded projects

The NT Government project was funded by the Department of Corporate and Information Services, with the direct support of the Chief Minister. CAT Ltd was contracted to deliver 22 HotSpots over a two-year period commencing July 2015. Project activities included desktop surveys of a range of potential sites followed by field surveys to verify site suitability, fabrication of pre-cast concrete, fibreglass and metalwork in the CAT Ltd Enterprise Workshop, and installation and testing of each site.

Three of the 2015/2016 HotSpots were installed in the Imangara, Tara, and Yuelamu Aboriginal communities, and by all accounts are in regular use.

Through collaboration with the NT Government Departments of Infrastructure and Transport, a unique (for Australia) HotSpot icon was approved and is now incorporated into the blue and white highway signage on six HotSpot rest stop sites on the Stuart Highway. In addition to their obvious utility and convenience for general travellers, at least three of the HotSpots were used to make emergency services calls during their first months of operation.

The ABA project has provided for HotSpots at 10 Aboriginal communities in central Australia. Sites for these HotSpots were selected in consultation with the Central Land Council, who canvassed interest with residents through consultations in the Hermannsburg, Papunya and Utopia / Ampilatwatja regions. All of the community installations were completed in the first half of 2016. They are located at the following communities and outstations:

- Armstrongs, Kwala, Mbalkanaka, and Ltira at Hermannsburg.
- 5 Mile and Green Valley at Papunya.
- Atheley, Atwengerrpe and the Clinic in Utopia.
- Irrultja near Ampilatwatja.



[Watch the HotSpot Installation at Simpsons Gap video on Vimeo](#)

READ MORE ONLINE:

[HotSpots, virtual reality and apps lead the way in Indigenous startups](#)

[CAT Ltd's outback mobile HotSpot gets government funding](#)

[Mobile phone HotSpots planned for remote parts of Central Australia](#)

MK II HotSpot development project

This project is funded in equal parts through the NT Government Business Innovation Support Initiative (BISI) Program, and through the CAT Ltd Innovation Fund.

The project, which commenced late in 2015, has two aims:

- To develop and prototype an enhanced HotSpot design for locations that are beyond the coverage footprint achievable with the existing HotSpot
- To support the activity required to extend the HotSpot market to include the Top End of the NT.

Design and model testing of the enhanced HotSpot took place in late 2015 and early 2016. As a result, HotSpot implementations can be expanded to incorporate three improvements:

- A larger parabolic dish antenna
- A sub-reflector to improve the efficiency of the antenna structure
- A novel reflector design to be used in conjunction with a dish, but mounted higher above ground level to overcome local (typically vegetation) obstructions.
- The mechanical structural engineering design of these new elements is in progress.

The existing patent application for the Mk I design has been extended to embrace these new design elements.

Market development activity in the Top End through the CAT Ltd Darwin office has thus far resulted in a Memorandum of Understanding between CAT Ltd and Kokoda Industries in Winnellie to provide local fabrication services for HotSpot sub-assemblies, and the surveying of a number of potential HotSpot sites in the Kakadu region and areas south and south-east of Darwin.



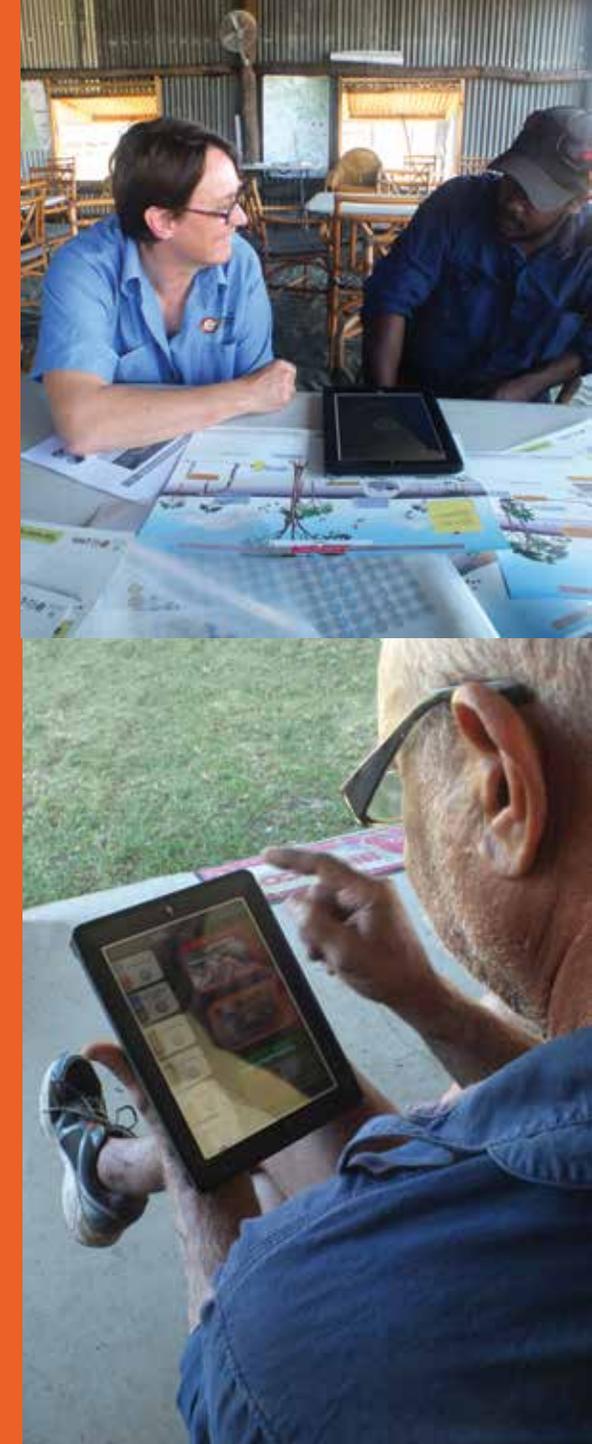


The Water App

The project's objective is to develop technology — an App — to support regional water management networks in remote Indigenous communities. Regional water management networks have the potential to secure local capacity, enable quick responses to issues (repairs and monitoring) as well as emergencies. Strategies and tools to enhance collective effort in water supply monitoring and management through communication processes and digital technology platforms will be explored and developed. This work builds on the Community Water Planner which was developed by CAT Ltd in 2009.

Traditional Owners and residents from the Oikola Homelands in Far North Queensland have agreed to be the case study community to assist with product design, development and testing.

The project has been made possible through a grant of \$US50,000 from Newman's Own (Rockefeller Foundation) for the Empowerment Project Australia and is matched by the CAT Ltd Innovation Fund.



A powered HotSpot: development & testing

The Top-end CAT Ltd team have been developing and testing pre-release low cost mobile phone booster technology in remote Indigenous Homelands working with Cel-Fi and in collaboration with national distributor Powertec. This has involved investigating off grid power and high gain antenna requirements and testing the systems in different terrain and climatic environments.

The technology has been successfully tested in twelve remote communities across the Top-End. Post certification of the technology by Telstra and the Australian Communications and Media Authority is in progress and the roll-out of the CAT Ltd stand-alone powered mobile booster station is expected to occur next year.

These powered booster stations will also deliver the mobile telephone requirements required for the impending roll-out of smart power metering technology in some Homelands in the NT.



Homelands & Outstations Access & Assets Review

The Review is the first comprehensive survey of Northern Territory Homelands and Outstations ever undertaken. It collected detailed information for 401 Homelands and Outstations across the NT. Information was collected via site visits between January and August 2015. The project was funded by the Australian and Northern Territory Governments.

The primary data were collected via a set of investigative community surveys with community residents and resource agencies. The Homeland community visits included a mixed method of both investigative surveys and in-person community resident interviews. The primary data collected are mixed mode including both quantitative and qualitative data.

The survey is a point in time snapshot which considers both physical and social dimensions. The physical dimensions are the infrastructure that provides essential and municipal services: water, sewerage, energy, waste management, telecommunications, roads and transport, housing, community buildings and environmental management. The social dimensions are access to community services: population & occupancy, education, health, employment & enterprise and support networks.

CAT Ltd applied a high level assessment of the functional suitability of each asset to each community to allow a relative comparison between all of the Homelands/Outstations to be achieved. The assessment tool was provided to the Australian and Northern Territory Governments on 3rd September 2015. The final report was completed by 31st October 2015 and is awaiting final public release.





A Homeland at Koongarra

The Koongarra Homeland Project (Jan 2016 - July 2017) is a program of work co-designed by CAT Ltd and the Traditional Owner of Koongarra to establish a small Homeland on the ex Koongarra Lease within the boundary of Kakadu National Park. It is funded by the Australian Government Department of Prime Minister and Cabinet.

The purpose of the Homeland is to be a place of residence for the Traditional Owner and family and a place to generate a livelihood. Community development principles underpin the project design and delivery to ensure that the infrastructure is the foundation for achieving optimal self-reliance and sustainable outcomes.

Jeffrey Lee, an elder of the Djok people and Traditional Owner of Koongarra, fought for over three decades to prevent mining on his traditional land after it was excluded from the World Heritage listed Kakadu National Park because of the presence of high grade uranium in the area. In 2010 Jeffrey asked the Australian Government to bring Koongarra into the park and three years later it did, thus ending efforts by mining companies to develop resources in the area. The Koongarra region is unique, magnificent and important in traditional storylines that include the Rainbow Serpent and Lightning Man.



Port Stewart water supply

CAT Ltd has been working with the Lama Lama people for over two decades and was aware of a major issue with the water supply at their key settlement and operations base at Port Stewart on Cape York.

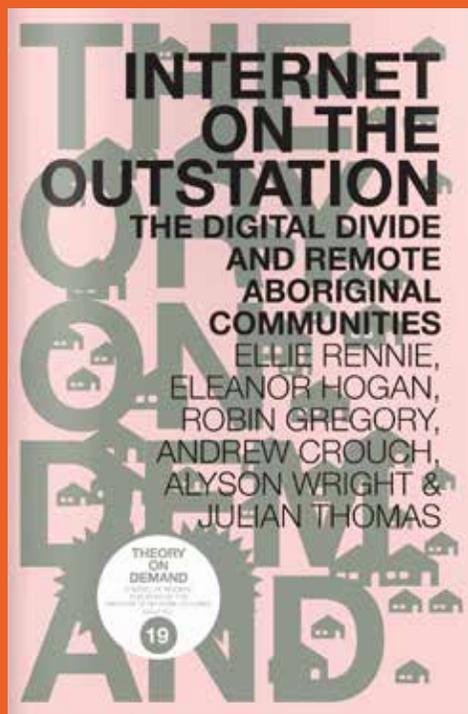
To access funds through the Indigenous Land Corporation (ILC) to upgrade the water supply a design and cost estimate was required. However, the Lama Lama people did not have the funds to undertake the engineering design in order to submit them to the ILC for funding. In effect a 'catch 22' situation.

To overcome this CAT Ltd worked with the Engineers Without Border's new 'EWB Connect' program to secure ARUP as a corporate partner to provide the design free of charge.

In early 2016 ARUP completed initial designs, allowing CAT Ltd to seek quotes from contractors and submit an expression of interest with the ILC for funding. The project is ongoing and we are optimistic that funding will be secured shortly. It is anticipated the new water supply system will be installed in 2016/17 finally resolving a major issue that has been impeding development and creating significant health risks for the Lama Lama people.

This project was made possible with funding from the John Villiers Trust under CAT Ltd's Live and Thrive on Country Program.





Oriners Solar

CAT Ltd developed and led an innovative project to design and build a stand-alone solar power system for the Oriners Ranger Base — operated by Kowanyama Aboriginal Shire Council's (KASC) Ranger program operated by their Land and Natural Resource management Office.

CAT Ltd was approached by KASC to explore options for a new solar power system at the Oriners Ranger base after their old solar system had been stolen some years before. KASC had limited funds available, yet a need for a high quality and durable energy solution for the ranger base.

The project piloted a new collaboration with the Alternative Technology Association (ATA). It also drew on Ekistica Pty Ltd's solar system design expertise and the expertise of volunteer solar installers amongst the ATA's extensive volunteer membership base.

In November 2015 CAT Ltd and ATA volunteers successfully installed a solar system on site (to deliver approximately 12kwh/day). The system includes essential and discretionary power circuits and user interfaces and generator back up. The install team consisted of Andre Grant (CAT Ltd), David Tolliday (ATA/holmsglen Tafe) John Dickie, (ATA/Office of Clean Energy Regulator), Jared Warren (KASC electrician) and Rangers Philip Yam, John Clarke, Gary Hudson and Chris Hannocks. CAT Ltd returned six months after install to undertake a maintenance run, minor upgrades and system handover.

Internet on the outstation

Internet on the Outstation was a multi-year research collaboration between CAT Ltd, the CLC and Swinburne Institute for Social research. The project included a trial of internet infrastructure, training and maintenance in three outstations in central Australia.

The final report of the Home Internet Project was published in e-book form, and launched at the Broadband for the Bush 2016 Forum in Brisbane in June 2016.

READ MORE ONLINE

[Internet on the outstation: The digital divide and remote Aboriginal communities by Ellie Rennie, Eleanor Hogan, Robin Gregory, Andrew Crouch, Alyson Wright & Julian Thomas.](#)





Manymak Energy Efficiency Project

The project was delivered by a consortium of partners (Power and Water Corporation, CAT Ltd, East Arnhem Regional Council, NT Department of Housing and Charles Darwin University) in six communities in NE Arnhem Land. CAT Ltd, with support from Ekistica Pty Ltd, led the community engagement and education approach for the project. The Manymak Project was the first large scale energy efficiency project in remote Indigenous communities in Australia. A number of cultural, language and geographical factors mean that conventional clean energy technologies and energy efficiency approaches are not easily translated to this context. During project planning and implementation, many innovative solutions and strategies were used to overcome these challenges.

Yolngu people were at the centre of the planning and design of the project. Their guidance helped ensure strong community buy-in and support. Yolngu engagement staff undertook the bulk of the engagement work. All training and education was delivered in Yolngu Matha, the lingua franca of East Arnhem Land. Crucial to the Project's success was the employment of 81 local Yolngu Energy Efficiency Workers ('YEEWS'). The YEEWs engaged with 590 households, providing education and training on clean energy technologies and behaviour change strategies. This represented a participation rate of 89% of households.

A range of clean energy technologies were deployed through this project, including commercially available options and technologies specially developed to meet the needs of the target communities. Conventional technologies installed into households included 114 solar hot water systems, 87 heat pump hot water systems and ceiling insulation into 47 households.

A specialist energy use interface (the BEEBox) was developed by CAT Ltd and Ekistica Pty Ltd and used extensively throughout this project. It is an intuitive user interface that assists residents to manage and conserve household energy consumption. It was installed into 252 households through this project. Through the project evaluation, BEEBoxes were shown to help reduce the total energy cost for households, as well as reducing the frequency and rate of power disconnections caused by running out of power card credit.

A need was also identified for a stove timer that is not currently available commercially. The project subsequently funded the design and development of a bespoke timer that shuts off after one hour of use, which was installed into 209 homes. Stove timers accounted for an average saving of 3.13kWh per day per house, saving residents an average of \$1,142 per annum.

The project has embedded an estimated 456MWh of annual energy savings for the participating remote Indigenous communities.

The Manymak Project is a finalist in the 2016 NAIDOC Awards, the Clean Energy Council of Australia Community Engagement Awards and Engineers Australia Northern Division Awards.



[Watch the Manymak video on Vimeo](#)

A base for Kiwirrkurra Rangers

Telstra's Pay it Forward (TPIF) program gives employees with outstanding customer service the chance to volunteer with exciting and worthwhile projects. Over the last two years, Telstra has invested in building small infrastructure in desert communities of Western Australia in partnership with Central Desert Native Title Services (CDNTS).

CDNTS has been at the forefront of organising these events on Telstra's behalf. CDNTS approached CAT Ltd to design and project manage the delivery of the 2015-16 TPIF project in Kiwirrkurra.

The project involved the design, project management and construction of a shelter on the shores of Lake MacKay for use by Indigenous Rangers who manage country as a part of the recently established Kiwirrkurra Indigenous Protected Area (IPA).

CAT Ltd designed and project managed the delivery and installation of the infrastructure. The shelter, barbecue, signage boards and steel furniture were fabricated by staff from the CAT Ltd Enterprise workshop. These staff also coordinated and managed the construction activities on site, effectively utilising the labour and available skills of the 21 Telstra staff TPIF winners.







Training at Gapuwiyak

In August 2015 CAT Ltd delivered the Certificate II in Rural operations to CDP participants in Gapuwiyak. The group of men know themselves as the buffalo boys due to their fondness for hunting buffalo to supply them with lunch during their work hours. The buffalo boys are a very strong group of men who take great pride in Gapuwiyak and what it means to be a buffalo boy. Lots of the units which make up the Certificate II fit in with the community development approach that the buffalo boys take to their work. Some of the projects that they took part in to complete the practical training included:

- Cleaning up the trees and overgrown grasses at the homelands Yalakun and Raymingirr after the cyclone earlier in the year, as well as regular garden maintenance for a number of community facilities including the police station and Government Business Managers residence.
- Construction of an 100m long concrete footpath from the community to the airport.
- The installation of a fence around the Bush Milyak Wanga (Bush Women's house), burying into a 400mm deep trench which the men have dug using hand tools to prevent dogs getting in and destroying the garden.
- Constructing a Warraw — which is the shade structure in which the Yolngu funeral ceremony takes place. This is quite an impressive structure that required a lot of skill and effort to build.





Burri Gummin Affordable Housing Project Yarrabah

Burri Gummin means ‘one fire’ – and for this project the one fire is a place of gathering and healing for disadvantaged members of the community. The community led project facilitated by CAT Ltd explores the application of ‘Community Land Trusts’ as a model for affordable, culturally appropriate home ownership in Yarrabah.

The Burri Gummin Affordable housing project was born from a yarn at the beach with a few key people in Yarrabah. These community members had an idea to build a small housing complex for people in the community on Disability Support Pensions to purchase and own (with funds held in trust). The project, funded by Worklink and Centacare is also supported by Dr Louise Crabtree from the University of Western Sydney and is exploring the first time application of a ‘Community Land Trust’ (CLT) model as a home ownership structure in an indigenous community.

CAT Ltd will deliver a pre-feasibility followed by an exploration of the technical design (concept designs, site masterplan), financial analysis (build cost estimates) and tenure and governance arrangements (contextual application of community land trust model and options for governance). CAT Ltd is also engaging the support of University of Sydney and University of Melbourne’ architecture students for extended design development.



Welding skills & work experience

CAT Ltd was asked by Tangentyere Council Inc. to develop a training program in the areas of metal fabrication, welding repairs and equipment maintenance. The customised course was designed to support independent work skills and employment pathways for local people in town camps.

Fourteen learners participated in the program. Two mentors from Tangentyere were also on site during the training to provide additional support and encouragement. The participants learned how to use various welding machines and completed a number of project based activities including remodelling of an engine support frame and fabricating a fire drum.

Three learners were also given the opportunity for industry experience placement for two days each in the CAT Ltd Enterprise Workshop. We achieved a completion rate of 95% across the units of competency with very positive feedback from participants.

Tangentyere have opened a new activities facility and through completion of this program, participants have gained suitable skills and knowledge to work in their welding section.



Alyuen laundry

The Centre for Appropriate Technology have designed and managed the delivery of a new laundry and ablution block at the Alyuen community. The native title holders of Alyuen elected to invest some mining compensation money in developing a laundry and ablution block on their community. The Central Land Council's Community Development Unit facilitated the project and CAT Ltd designed and managed the delivery of the facilities. Initially the community was interested in building a new structure for the ablution block and laundry but they had a very limited budget. With CAT Ltd's support and advice, the TO's decided on reusing an existing building in order to meet the project ambitions within the limited budget.

An old building was refitted with internal walls to create a laundry with a washing machine, laundry trough and clothes line; and a bathroom including toilet, shower and hand basin. The new facility is not only a functional asset for the community but is also provides a new social space. The front verandah provides a cool shaded area with a large bench seat to sit and have a yarn while waiting for the washing.

Community engagement was core to the project. There was strong participation from the male outstation residents Stanley Tilmouth and Andrew Glenn and Ti Tree resident Trevor Glenn through the construction process. CAT Ltd also facilitated a painting activity to decorate the laundry door and to select the colour for the laundry walls which provided an opportunity for the women of the outstation to be involved.

Mt Liebig Church upgrade

CAT Ltd completed a church upgrade project in the Mt Liebig community (330km west of Alice Springs). The community spent some of their community lease money on renovating their church. The Central Land Council Community Development Unit worked with the Mt Liebig working group to prepare a brief, and then sought designs and a budget from CAT Ltd.

CAT Ltd developed the design options and costings for the project, and managed and delivered the project. CAT Ltd also coordinated the employment of two local workers during construction in partnership with Ngurratjuta CDP - Cedric Dixon and Yuella Miller. Both men were pleased to apply their skills on the job and are happy with the finished result.

A key component of the renovation work was to repair the six large sliding doors so that the church could be locked and more weatherproof, and protect the sound equipment and furniture inside. Another task was to renew the existing concrete floor surface. CAT Ltd worked with community members to select a colour for the floor paint. Roderick Kantamarra, the pastor, said that they selected blue because it 'reflects the heavens above'.

Twelve new pews were fabricated in the CAT Ltd Enterprise Workshop and assembled on site with local workers. The design includes a rest for bibles on the back of the chair. Additionally, carpet floor mats were supplied to enable extra seating.

The Mt Liebig church will continue to be a lively centre for community meetings, bands and sing-a-longs. After the first service in the upgraded church, Pastor Roderick said that it 'makes people feel happy, everyone is happy.'



Disabled access hand rails for Standley Chasm walking trail

The Angkerle Atwatye Aboriginal Corporation at Standley Chasm in the West MacDonnell Ranges near Alice Springs was successful in receiving a grant through the Tourism Demand-Driver Infrastructure program to construct a wheelchair accessible walking trail into the chasm. They approached the CAT Ltd Enterprise Workshop to design and install hand rails for sections of the track. The project involved conceiving a design that met all the required standards for disabled access yet was visually unobtrusive and sympathetic to the beauty of the environment. The final design consisted of simple upright steel posts, finished in a 'natural' rusted look, with ball heads to anchor the horizontal rails and which could be angled to suit the incline and undulations of the track. Vertical steel uprights with a rusted finish were inset between the posts and welded in situ to form the safety barrier. The result is a hand rail that blends seamlessly into the environment and delivers the access and safety required. All fabrication and installation work was undertaken by Aboriginal employees in the CAT Ltd Enterprise Workshop.





Powering fields of light

British artist Bruce Munro is best known for immersive large-scale light-based installations. Bruce was commissioned by Voyages Ayers Rock Resort to develop the Field of Light installation at Uluru. Ekistica Pty Ltd was contracted to design the PV based solar system to power the lights and they called on the assistance of CAT Ltd Enterprise Workshop staff to fabricate the boxes and frames for the PV panels, battery and wiring system. The boxes and associated components were then installed in situ in the field and hooked up to the light display. The Field of Light installation has been such a success it is planned to extend the duration of the installation through to March 2018.

LEFT: Field of Light, Uluru, Bruce Munro 2016
Photo by: Mark Pickthall

Yulara Interpretive Shelter

Ekistica Pty Ltd was contracted by Voyages Ayers Rock Resort to undertake a feasibility study and develop the overall design for a solar power system at the resort. A further component of the project was the design and installation of an interpretive shelter and associated signage to provide information about the power system to resort visitors. Ekistica Pty Ltd contracted the CAT Ltd Enterprise Workshop to both fabricate and install the shelter and signage. The Tjintu Solar Field is now powering the resort.





EKISTICA PTY LTD REPORT

The 2015-2016 financial year saw continued industry uncertainty, policy flux and contractions in opportunities within the international market. In spite of this, it was a stellar year for Ekistica Pty Ltd, with a number of high profile projects successfully completed, significant new projects contracted and underway, expansion into new and exciting areas of service delivery, and substantial growth in its staffing to support an increasing workload.

End of year results showed the company made a solid profit in excess of its ambitious targets, allowing the payment of a substantial dividend of \$100,000 to CAT Ltd while also building its internal cash reserves.

Ekistica Pty Ltd now employs fifteen staff who over the year worked on over 40 discrete projects across remote and regional Australia and the Asia-Pacific, for clients including state and national government agencies, utilities, commercial companies, private fund management firms, community organisations and multilateral development agencies and banks. Over this time, the company also undertook a major restructuring of its internal business management practices, leading to improvements in organisational efficiencies, while also achieving re-accreditation for its ISO 9001 Quality Management System.

Major projects Ekistica Pty Ltd were involved with include:

- Completion of a third solar PV system at the Alice Springs Airport.
- Completion of a 4MW PV system at the Darwin International Airport – the largest privately financed renewable energy project in Australia; plus initiation of a 1.5MW expansion to this system.
- Completion of 1.8MW of distributed solar PV integrated into the network at Yulara township, for Voyagers Indigenous Tourism Corporation.
- Waterloo Windfarm stage 2 – a ~\$40M, 6 turbine expansion to an existing 111MW facility in SA for which Ekistica Pty Ltd is providing Project Directorial and Owners Engineering services.
- Project management of upgrade works to an existing 9m antenna and installation of a new 9m antenna for Geoscience Australia at their Heath Road facility in Alice Springs.
- Policy support for the Cook Islands Government – developing governance and management structures for the provision of electricity to the country's outer islands.
- Technical advisory and assessment services to ARENA on their large scale RE auctions.



CAT LTD BOARD MEMBER'S PROFILES



Frank Curtis

A local Arrernte man, Frank Curtis served the people of central Australia for a period of twenty years in his role as an Aboriginal Community Police Officer, Frank is currently working at the Ali Curung Health Centre and is in the process of developing a Youth rehabilitation camp at Umbussa Amurra outstation. Frank enjoys working with young people to build up their self esteem and confidence. He strives to instill in these youth a vision that someday they will end up being leaders of their country. As a member of the CAT Ltd Board, Frank is passionate about finding ways for Aboriginal people to return to country and live on their homelands.



Brian Singleton

Brian Singleton is a Yirraganydji Rainforest Bama (People) whose people Ancestral Traditional Lands are from the Cairns region to Port Douglas. Brian works for the Great Barrier Reef Marine Park as an Indigenous Community Compliance Liaison Officer. He brings more than 15 years' experience in engaging Traditional Owners and Indigenous Communities in Land and Sea Management. Brian is passionate about providing training and knowledge exchange to communities and Traditional Owners to manage their own sea country.



Jenny Kroker

Jenny is an Eastern Arrernte woman. Jenny has a practical background in cross-cultural education and uses this to nurture the organisational culture at CAT Ltd. She has integrated Indigenous Knowledge into science curriculum in schools. She is a strong advocate for women in technology.



Dr. Steve Rogers

Dr. Steve Rogers commenced as the CEO of CAT Ltd in January 2015. He has most recently been the Science and Industry leader at the Australian Institute of Marine Science in Perth. He has also been the CEO and Managing Director of two Co-operative Research Centre's and Principal Research Scientist with CSIRO Land and Water. He is an experienced company director with a strong vision for CAT Ltd as a national organisation delivering the technology innovation needed to stimulate economic development across remote Australia.

CAT Ltd Board Members ensure good governance, financial integrity & organisational focus on our intended purpose.



Grant Behrendorff

Grant is a professional engineering technologist specializing in renewable energy systems and energy efficiency program development and implementation. Grant spent several years as Group Manager of CAT Ltd's Bushlight renewable energy program from its inception in 2002. He has since lead projects in the energy sector in Australia, India, North America, and the Pacific Islands. Grant is currently the Director of Evolve Energy Pty Ltd, a Director of Energy Innovations Pty Ltd, and is based in Cairns, Queensland.



Brian Stacey

Brian Stacey is an anthropologist by training and worked in the Australian Public Service for more than 30 years in Indigenous Affairs. He started in Alice Springs as a graduate clerk for the former Department of Aboriginal Affairs in 1983 and worked with the Centre for Appropriate Technology in helping Aboriginal people to return to their country. Ultimately Brian became a senior officer including the State Manager in the Northern Territory and a Division head responsible for Land for Indigenous people. Brian has left the Public Service with the aim of supporting Indigenous organisations.



Peter Renehan

Peter Renehan was born and raised in Alice Springs. He has been CAT Ltd Chair since October 2010. He brings to CAT Ltd strong community engagement skills and practical hands-on abilities. Peter's leadership underpins the strength of the CAT Ltd Board and their focus on achieving positive outcomes for Aboriginal and Torres Strait Islander people.



Noel Hayes

Noel Hayes is a Kaytetye man from Ali Curung, central Australia. For ten years, he served as an ATSIC commissioner. He currently serves on the Barkly Shire Council in the NT. Noel has been involved in a leadership capacity for a range of social programs and community justice initiatives. He brings strong expertise in working with government.

FINANCIAL REPORT

	CONSOLIDATED		PARENT	
	2016 \$	2015 \$	2016 \$	2015 \$
INCOME				
Sales revenue	4,417,929	4,032,445	2,407,438	1,865,407
Other	2,833,158	6,600,969	2,833,133	7,167,728
TOTAL INCOME	7,251,087	10,633,414	5,240,571	9,033,135
EXPENDITURE	2016 \$	2015 \$	2016 \$	2015 \$
Employee benefits expense	4,593,060	5,457,320	3,449,607	4,539,473
Depreciation and amortisation expenses	288,331	328,944	287,171	328,755
Other expenses	3,008,573	4,456,126	2,320,037	3,778,609
Income tax expense	36,633	21,178	0	0
TOTAL EXPENDITURE	7,926,597	10,263,568	6,056,815	8,646,837
SURPLUS/(DEFICIT) FOR THE YEAR	(675,510)	369,846	(816,244)	386,298

	CONSOLIDATED		PARENT	
	2016 \$	2015 \$	2016 \$	2015 \$
CURRENT ASSETS				
Cash, investments, receivables, other	7,026,812	6,354,445	6,035,277	5,698,634
NON CURRENT ASSETS				
Property, plant and equipment	10,616,458	10,424,418	10,670,071	10,524,428
Other assets	65,695	-	-	-
TOTAL ASSETS	17,708,965	16,778,863	16,705,348	15,923,062
CURRENT LIABILITIES				
Creditors, accruals, provisions	1,258,996	1,406,635	777,627	905,906
Other liabilities (incl unexpended grants)	2,512,574	1,006,256	2,512,574	1,079,540
NON CURRENT LIABILITIES				
Provisions for employee benefits	215,132	281,747	192,615	212,388
Loan	-	-	-	-
TOTAL LIABILITIES	3,986,702	2,694,638	3,482,816	2,197,834
NET ASSETS	13,722,263	14,084,225	13,222,532	13,725,228
EQUITY				
Accumulated funds	2,333,927	3,009,441	1,834,196	2,650,440
Reserves	11,388,336	11,074,788	11,388,336	11,074,788
TOTAL EQUITY	13,722,263	14,084,229	13,222,532	13,725,228

NOTES TO THE FINANCIAL REPORT

1. Basis of Preparation

The financial statements are general purpose financial statements that have been prepared in accordance with the Australian Accounting Standards and the Australian Charities and Not-for-profits Commission Act 2012.

2. Summary of Significant Accounting Policies

(a) Income Tax

The company is exempt from paying income tax. The controlled entity is subject to income tax. The company changed accounting policy in relation to tax effect accounting. The aggregate effect of the change in accounting policy on the annual financial statements for the year ended 30 June, 2016 is as follows Deferred Tax Expense of (\$47,723) for the prior year was recognised in the current year. Current tax is the amount of income taxes payable (recoverable) in respect of the taxable profit (loss) for the year and is measured at the amount expected to be paid to (recovered from) the taxation authorities, using the tax rates and laws that have been enacted or substantively enacted by the end of the reporting period. Current tax liabilities (assets) are measured at the amounts expected to be paid to (recovered from) the relevant taxation authority.

(b) Revenue and other income

Grant revenue

Grant revenue is recognised in the statement of profit or loss and other comprehensive income when the entity obtains control of the grant, it is probable that the economic benefits gained from the grant will flow to the entity and the amount of the grant can be measured reliably. When grant revenue is received whereby the entity incurs an obligation to deliver economic value directly back to the contributor, this is considered a reciprocal transaction and the grant revenue is recognised in the statement of financial position as a liability until the service has been delivered to the contributor, otherwise the grant is recognised as income on receipt.

(c) Goods and Services Tax (GST)

Revenue, expenses and assets are recognised net of the amount of goods and services tax (GST), except where the amount of GST incurred is not recoverable from the Australian Taxation Office (ATO).

Receivables and payable are stated inclusive of GST. The net amount of GST recoverable from, or payable to, the ATO is included as part of receivables or payables in the statement of financial position.

Cash flows in the statement of cash flows are included on a gross basis and the GST component of cash flows arising from investing and financing activities which is recoverable from, or payable to, the taxation authority is classified as operating cash flows.

(d) Property, Plant and Equipment

Each class of property, plant and equipment is carried at cost or fair value less, where applicable, any accumulated depreciation and impairment.

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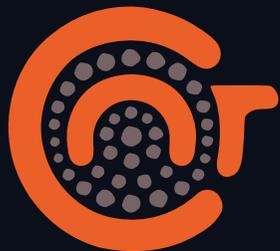
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