



**TERRAMIN AUSTRALIA LIMITED**

# 2<sup>nd</sup> Quarter Report 2015

## HIGHLIGHTS

- Successful workshop with Algerian joint venture partner leading to agreement on key elements of the revised feasibility study for Tala Hamza Zinc Project
- Agreed complementary work to finalise the revised feasibility study prior to taking decision to mine for Tala Hamza Zinc Project
- Continued preparation work for pre-feasibility study and mining lease application for Bird-in-Hand Gold Project
- Conversion of Notes into shares reducing debt level by \$16 million
- Termination of Menninnie Dam Joint Venture, Terramin resuming 100% control

# TALA HAMZA PROJECT

100% owned by Western Mediterranean Zinc Spa (WMZ)

***Terramin holds a 65% shareholding in WMZ. The remaining 35% is held by two Algerian government-owned companies: Entreprise Nationale des Produits Miniers Non-Ferreux et des Substances Utiles Spa (ENOF) (32.5%) and Office National de Recherche Géologique et Minière (ORGM) (2.5%). The Oued Amizour Exploration Permit 5225PE is a 125km<sup>2</sup> tenement which contains several lead-zinc deposits including the Tala Hamza Zinc deposit.***

## Update

During the quarter, our partner, ENOF and the Algerian government have advised that they had completed their review of the revised feasibility study prepared for Terramin by China Non-Ferrous Metal Industry's Foreign Engineering and Construction Company (NFC). The parties attended a technical workshop in mid-May 2015 to discuss the outcomes and recommendations of the revised feasibility study.

The partners generally agreed that the revised feasibility study, in its current form, is positive, meets the objectives and expectations of the partners and provides a strong basis to move towards a decision to mine. Some additional work as proposed in the revised study, has been agreed to add important data before a decision to mine can be taken by the joint venture partners. As indicated in the announcement released on 28 May 2015, this additional work which relates to the hydrology, geotechnical data, mining infrastructure and tailings is generally of a nature that is often performed at the mine design preparation stage. However, in certain jurisdictions, including Algeria, government organisations and regulators require that such work be performed at feasibility stage.

Following this workshop, Terramin and NFC developed a work plan which was presented to and discussed with ENOF during the board meeting of the joint venture company, Western Mediterranean Zinc (WMZ) in June 2015. This work programme was generally approved by the board of WMZ.

Further, and with agreement of the joint venture partners, WMZ has initiated the renewal process of the exploration licence with the Algerian regulator on the basis of the work programme presented to the WMZ board.

The work programme will aim to complete the final aspects of the study in the coming months and proceed with a decision to mine as soon as possible thereafter.

During the quarter the cash expenditure on the project was \$246,075.





# BIRD-IN-HAND GOLD PROJECT

100% owned by Terramin subsidiary Terramin Exploration Pty Ltd

***The Bird-in-Hand Gold Project is located approximately 30km north of Terramin's existing mining and processing facilities at the Angas Zinc Mine. The project has a high grade Resource of 233,000 ounces of gold which is amendable to underground mining.***

***It is anticipated that subject to required regulatory approvals, the Bird-in-Hand material will be processed utilising the facilities at Angas which can be modified to process gold-bearing material. The existing tailings dam at Angas has the capacity to hold all the Bird-in-Hand tailings.***

## Update

During the quarter, environmental baseline studies and community engagement continued at the Bird-in-Hand Gold Project in preparation for the Mining Lease application.

As part of these studies, additional pump tests were undertaken in bores around the location of the deposit to provide additional information on host rock permeability. The geological structural model was incorporated with the hydrological model into a first draft regional groundwater model. This data has been incorporated with data collected from 55 surrounding bores in the past 18 months and historical information from the 1800's. The results produced from the model align with historical records indicating that the model represents the actual groundwater complex. As additional information is collected through geological and hydrogeological investigation it is being added to continuously improve the model. The investigation work conducted to date shows that controlled mining at the Bird-in-Hand deposit within the Western Mount Lofty Ranges catchment area will have minimal impact on the regional aquifer. The use of groundwater management techniques to keep the water out of the mine will ensure that groundwater will not be detrimentally impacted.

Terramin has continued to brief various State Government Departments and other parties on the status of the hydrological studies and other impacts of the Project in regards to dust, transport, processing and employment. It was reemphasised that as the mine is underground, using mined waste as backfill, it will have little visual impact on the surrounding area. Initial work has begun with a consulting landscape architect to ensure that the infrastructure can be sympathetically integrated into the landscape. Dust will be kept to less than background levels through minimal emission and dust mitigation strategies. Noise levels will be limited through noise bunding, vegetation plantings, equipment selection and it is expected that the noise levels will be less than those produced by existing neighbouring businesses. A draft regional noise model has been completed which includes noise monitoring data within the project area at intervals during the last 18 months. The model is currently being reviewed internally and will be integrated into the mining lease application.

Traffic surveys were undertaken along the potential haul routes that could be used for transport of the gold ore to Strathalbyn. When considering the total increase in traffic (heavy and light vehicles) required for the Bird-in-Hand operations, 9% additional traffic will be generated by the mine on the minor roads and 2% on the major roads.

The environmental studies and natural habitat preservation work continues on site. Initial discussions with the Department of Environment, Water and Natural Resources and the EPA indicate that their concern for the natural environment is associated with biodiversity and conservation of the existing native woodlands. Terramin have commenced a programme for the replanting of native endemic species provided by local suppliers. Two zones of native plantings are planned for 2015, with 2,200 native trees and shrubs being planted during winter. Additional trees have been ordered in preparation for winter planting 2016 to ensure that native habitat of the area will receive additional bio-diversity for local species to live and forage with the intention to improve the habitat for endemic wildlife identified in the 2014 fauna survey.

Preparation work for the next phase of diamond drilling has been undertaken. The drilling will increase the structural understanding of the geological setting, improve hydrogeological understanding and provide geotechnical information. It is expected that this drilling programme will commence in the second half of 2015.

During the quarter the cash expenditure on the project was \$229,506.



# ADELAIDE HILLS EXPLORATION

100% owned by Terramin and Terramin Subsidiary Terramin Exploration Pty Ltd

**The Adelaide Hills project consists of twelve contiguous exploration tenements that cover 3492 km<sup>2</sup> stretching 120km between Victor Harbor and Kapunda, (Figure 1). This project area is considered highly prospective for gold, copper, lead, zinc and rare earth elements..**

## Update

The Adelaide Hills has a long history of mining and was the site of Australia's first base metals mine (Glen Osmond, 1841) and first gold mine (Victoria Mine, 1846). From 1841 to 1851 virtually all of Australia's metalliferous mines were located in South Australia. Over 250 historic gold and copper mines and prospects are located on Terramin's Adelaide Hills tenements.

During the reporting period Terramin applied for tenement ELA2015/00094, located 70km E of Adelaide (Figure 1). This tenement will complement Terramin's existing landholdings (EL5102, EL5339 and ELA2015/00027) over the Padthaway Ridge.

The Padthaway Ridge concealed beneath the western margin of the Murray Basin is poorly understood. Limited exploration has identified voluminous crustal intrusions and widespread felsic and mafic volcanic sequences. Late-stage, high-level porphyritic intrusions indicate an extensive period of ongoing volcanism after the Delamerian Orogeny.

The extensive syn and post-tectonic granitoids are considered prospective for porphyry copper-molybdenum, epithermal copper-gold and skarn deposits.

The large, post-orogenic mafic intrusions in the northern part of the Padthaway Ridge, particularly the Cambrai pluton, are prospective for Nova Bollinger style nickel and copper mineralisation.

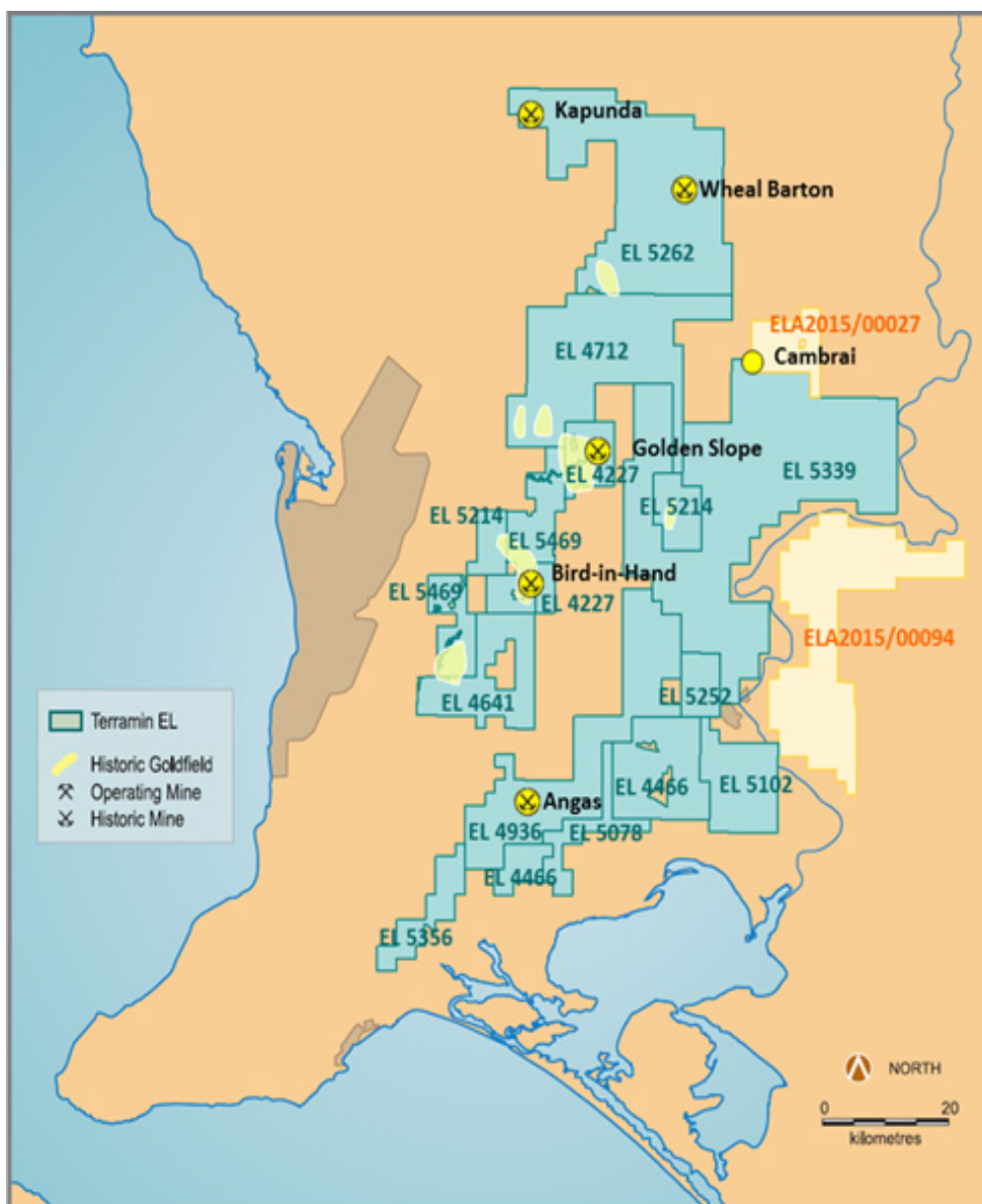


Figure 1. Adelaide Hills tenement holdings.

During the quarter the cash expenditure on the project was \$69,738.

# ANGAS ZINC MINE

100% owned and operated by Terramin

***A 400,000 tpa operation that produced zinc and lead-copper-silver-gold concentrates currently in care and maintenance. The processing operations are expected to resume upon the start of mining of the Bird-in-Hand deposit.***

## Update

The Angas Zinc mine remains in care and maintenance. The site remains in compliance with its lease conditions. There have been no environmental issues as a result of activities on the Angas site during the quarter.

Work on the Angas Mine closure plan (**Closure Plan**) and the tailings storage facility cover system continues with the Department of State Development and their consultants.

The Quarterly Environmental Report has been completed with no issues reported. The regular quarterly meeting was held with the Strathalbyn Community Consultation Committee during which the Closure Plan and the updated Programme for Environment Protection and Rehabilitation (PEPR) were discussed. An overview of the Bird-in-Hand Gold Project was given to the committee confirming the Company's plan to process the ore at Angas.

During the quarter the cash expenditure on the project was \$196,720.



# MENNINNIE PROJECT

100% owned by Terramin subsidiary Menninnie Metals Pty Ltd

**The Menninnie Project comprises a group of five Exploration Licences covering a contiguous area of 2,471km<sup>2</sup> in the Southern Gawler Ranges, South Australia.**

**In 2012, Menninnie Metals entered into a Farm-in and Joint Venture Agreement with Musgrave Minerals Ltd (Musgrave) (ASX:MGV) regarding the Menninnie Project. Musgrave can earn up to 51% by spending \$6m in the first phase and, if Menninnie Metals does not contribute, up to 75% by spending an additional \$3m.**



Figure 2. Tenements comprising the Menninnie Project.

## Update

As forecast, Musgrave did not carry out any exploration work on the Menninnie Project during the quarter.

After the reporting period, Musgrave and Menninnie Metals have agreed to terminate the Menninnie Dam Mining Farm-In and Joint Venture Agreement (**JV Agreement**).

The termination of the JV Agreement means that Menninnie Metals will retain 100% of the Menninnie Dam Project with Musgrave relinquishing its farm-in rights. In consideration, Menninnie Metals has agreed to pay Musgrave a net smelter royalty (**NSR**) of 1.0% in respect of tenements EL 5039 and EL 4813. Menninnie Metals will have the right (but not the obligation) to buy back 50% of the NSR (being 0.5%) for \$1,250,000 within 60 days of receiving product sale proceeds from these tenements.

The project is located in the southern Gawler Ranges, part of the Gawler Craton of South Australia that is increasingly becoming recognised as an under-explored region with high discovery potential. Terramin's tenements (Figure 2) have a combined area of 4754km<sup>2</sup> and contain the Menninnie Dam deposit, the largest Lead/Zinc undeveloped deposit in South Australia. The deposit consists of two main mineralised zones: the Menninnie Central zone and the nearby Viper zone. The lodes at Menninnie Central and Viper have been combined to estimate a JORC 2004 compliant Inferred Resource totalling: 7.7Mt @ 3.1% Zn, 2.6% Pb and 27g/t Ag, at a 2.5% Pb+Zn cut-off (ASX: TZN 1st March 2011).

Terramin is currently developing an exploration strategy for the project which it will announce to the market in due course.

During the quarter the cash expenditure on the project was \$26,124.

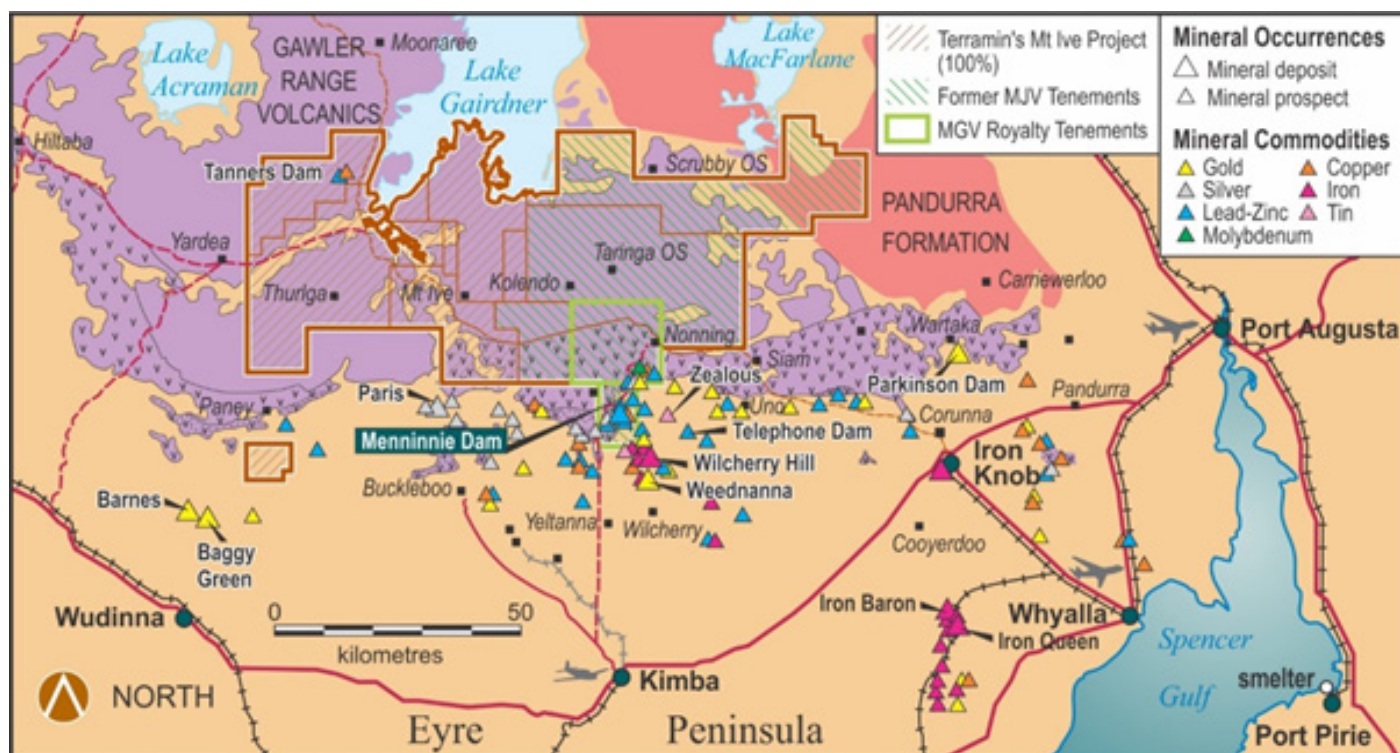


Figure 3: Project Tenements (in brown outline).

This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

# MT IVE PROJECT

100% owned and operated by Terramin subsidiary Menninnie Metals Pty Ltd

**The Mount Ive Project comprises five Exploration Licences covering a contiguous area of 2283km<sup>2</sup> in the Southern Gawler Ranges, South Australia. (Figure 4).**

**The project area is adjacent to the western margin of the Menninnie Project (cf. Figure 3) and its southern boundary lies 6km to the north of the Paris silver deposit. The area is prospective for gold, silver, copper, lead, zinc and tin.**

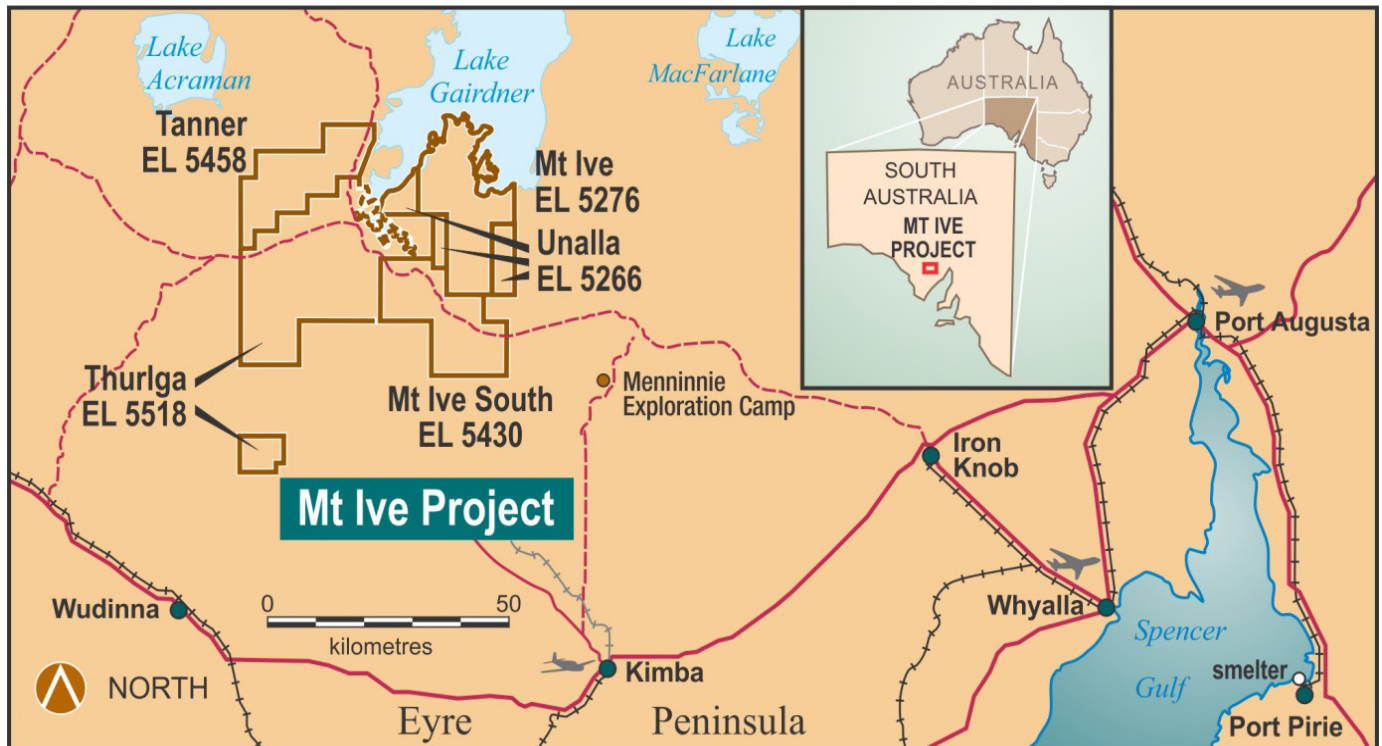


Figure 4. Tenements comprising the Mt Ive Project.

## Update

Reconnaissance field investigations were carried out on EL 5266, EL 5276 and EL 5518. Encouraging evidence of epithermal veining and alteration was observed at several localities. Detailed work will be carried out in these areas once a native title agreement has been established with the Gawler Ranges Aboriginal Corporation, authorising more comprehensive field investigations. Reconnaissance work during the next quarter will focus on EL 5458 and EL 5518.

During the quarter the cash expenditure on the project was \$38,954.



# CORPORATE

During the quarter, the Board resolved to restructure the Chairman's role and responsibilities. The Board resolved to appoint Mr Feng (Bruce) Sheng as non-executive Chairman and Mr Michael Kennedy as non-executive Deputy Chairman. This appointment recognises Mr Sheng's role in shareholder liaison and investor relations which are key to the development of the Company. Mr Kennedy will assist Mr Sheng as Deputy Chairman and continue to act as independent director on the Board of Terramin.

After the reporting period, Asipac Group Pty Ltd (**Asipac**) converted its 249,825,703 convertible notes (**Notes**) into shares. The Notes were issued following shareholder approval at the general meeting held on 17 September 2014. The Notes had a face value of A\$0.065 each or \$16,238,670.70 in total. In accordance with the terms of the convertible notes deed poll the Notes were converted in 249,825,703 fully paid ordinary shares. In addition, the Company issued 2,706,551 fully paid ordinary shares in satisfaction of interest payable on the Notes as at the conversion date (**Interest Shares**). The issue of the Interest Shares were also approved by shareholders at the September 2014 General Meeting. The Notes were cancelled from the Company's notes register. Please refer to the announcement dated 14 July 2015 for additional details.

This conversion into shares reduces further the Company's debt levels. The overall debt of the Company has now reduced from approximately \$35 million in April 2014 to approximately \$6.4 million as at 30 July 2015. All the company's debt is held by the Asipac, a significant shareholder.

As at 30 June the Company's cash balance was \$327,000. The Company has available an undrawn debt facility balance of up to \$0.5 million. Asipac has also agreed to provide a short term unsecured facility of \$1,500,000 while Asipac and the Company continue their discussions regarding the extension and restructure of the Terramin group loan facilities.

## Competent Person Statement

*The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Mr Eric Whittaker, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Whittaker is a full time employee of Terramin Australia Limited. Mr Whittaker has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Whittaker consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*



## CORPORATE INFORMATION

**TERRAMIN AUSTRALIA LIMITED** ABN 67 062 576 238

Level 3, 70 Hindmarsh Square  
Adelaide, South Australia 5000

**T** +61 8 8213 1415

**E** [info@terramin.com.au](mailto:info@terramin.com.au)

**F** +61 8 8213 1416

**W** [www.terramin.com.au](http://www.terramin.com.au)

## DIRECTORS AND MANAGEMENT

**Feng (Bruce) Sheng**  
**Michael H Kennedy**  
**Kevin McGuinness**  
**Angelo Siciliano**  
**Xie Yaheng**

*Non-Executive Chairman*  
*Non-Executive Deputy Chairman*  
*Non-Executive Director*  
*Non-Executive Director*  
*Non-Executive Director*

**Martin Janes**  
**Joe Ranford**  
**Stéphane Gauducheau**

*Chief Executive Officer*  
*General Manager - Chief Technical Officer*  
*Legal Counsel and Company Secretary*

## CAPITAL STRUCTURE

as at 30 July 2015

**Shares on issue**

**1,778,404,249**

**Unlisted Options**

**3,800,000**