

Expression of Interest

The EMC's Surface Long Haul EV Challenge

Expression of Interest invitation on behalf of
the members in the Electric Mine Consortium



 **ELECTRIC
MINE**
CONSORTIUM

1. Introduction

The Electric Mine Consortium (“the Consortium”) invites one or more Invitees to provide an Expression of Interest (“EOI”) for the provision of the goods or services outlined in clause 4 in accordance with this Invitation for Expression of Interest (“Invitation”) and the Terms and Conditions set out in clause 12.

2. Background

The Electric Mine Consortium has the ambition to accelerate progress towards the fully electrified zero CO2 and zero particulates mine by:

- Resolving technology choices;
- Shaping the supplier ecosystem;
- Influencing policy makers; and
- Communicating the business case

All of the members mines (as displayed in Clause 5), within the consortium group currently rely on diesel as a fuel for surface long haul of materials and products into, within and out of the mine gate. The miners transition to zero emissions relies on either their vehicles or their suppliers vehicles moving to a battery, powered by dispatchable renewable energy. The members intend to conduct site demonstrations of surface long haul electric vehicle solutions that provide appropriate levels of design alignment against the scope outlined in this expression of interest. The members require the Invitees to have a vision to achieve appropriate scale of solutions for the sites or regions of interest, to enable confidence in the transition over the long-haul fleet over time as well as commercially acceptable pathways. Mine-site conditions should be expected on all or part of mine roads, including weather extremes, dust, salt and corrosive environments in remote locations. Expressions of interest should:

- identify technology/product suites or combinations to suit applications; and
- clarify the use of vendor technology at scale and how this could be configured in the mining context.

Respondents are encouraged to include high level modelling of charging requirements over the stated distances and renewable power requirements to meet the site operational parameters. Further work will be undertaken with Invitees to understand the integration capability with the broader site and currently installed offsite energy infrastructure.

Results and data from site demonstrations that consortium members decide to proceed with as a result of this EOI will be shared amongst consortium members to further the understanding of application amongst the members. Learnings from the demonstrations will be used to further understand the near term and long term commercial viability of long haul electric vehicle solutions, with the aim of accelerating adoption. The Consortium would like to share insights more broadly with the Mining, Transport and other industries as agreed with vendors and as seen to be appropriate by The Consortium. Funding is expected from Vendor contribution, government (where grants align), end users, and potential additional funding from consortium finance partners. The Consortium can help in facilitating access to alternate funding sources.

3. EOI objectives

The objective of this EOI for The Consortium is:

- To become aware of the technical and commercial readiness of surface battery electric long-haul options for use in mining, transport and other industrial applications;
- To gain an understanding of the willingness of long haul providers to invest in battery electric vehicle conversion;
- To provide awareness to the market and grow interest in developing and applying solutions to surface long haul, aligned with the vision of The Consortium and its member companies;
- Furthermore, to understand where there is a consolidated demand or interest in regions across Australia for a surface long-haul decarbonisation solution;
- To encourage collaboration in the mining and transport industries to accelerate decarbonisation solutions in the mining industry; and
- To accelerate adoption of zero emissions long haul transport within EMC member companies

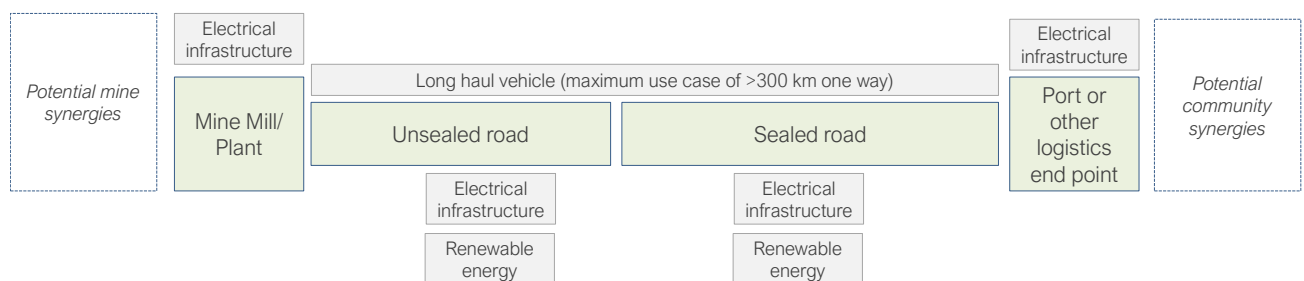
4. Description of Goods and / or Services - The Scope

4.1 Scope

This EOI is seeking participants and vendors that can provide a solution in the area of:

1. Surface Long haul electric vehicle* conversion (battery); and/or
2. Charging infrastructure to support surface long haul electric vehicles; and/or
3. Small scale renewable energy infrastructure to interface with charging infrastructure in remote areas.

Figure 4.1 Scope of work



1. Long haul vehicle

- Operation on sealed and unsealed roadDistance
 - Short, <100 km one-way unsealed
 - Medium, 100 – 300 km one way, mixed unsealed and sealed
 - Long, >300 km one way, mixed sealed and unsealed roads
- Truck size, singles up to and including quads
- Battery electric retrofit option or OEM provided
- Capital and operating costs (including maintenance)

2. Electrical Infrastructure

- Charging infrastructure, supporting battery swap or fast charge
- Capital costs
- Potential community and other mine synergies

3. Small scale renewable energy

- Small scale renewable technology
- Capital and operating costs
- Potential community and other mine synergies

* The Surface Long Haul vehicle is defined as a road train or similar, incorporating one or multiple trailers. This EOI is seeking solutions to support conversion of the prime mover.

Examples of use cases we are interested in include general freight movement and concentrate haulage across vehicle sizes to cover various conditions or constraints on and off road.

For further definition regarding scope items in or out and other considerations, please see Table 4.1

Table 4.1 In scope, out of scope and other considerations

Scope Area	In scope	Out of scope	Other considerations
1. Long haul vehicle	<ul style="list-style-type: none"> • Applicable to prime movers in a trailer/road train configuration • Battery solution as part of an OEM provided prime mover or retrofit – either adaptable to fast charge or battery swap • Battery management technology • Hardware for charge receipt 	<ul style="list-style-type: none"> • Conveyors • Rail solutions • Hydrogen Fuel cell • Alternate fuels (ie bio diesel, ethanol etc) • TRL 6 or lower technology solutions • Rigid chassis trucks 	<ul style="list-style-type: none"> • Operation of vehicle will occur across both minesite road and on highway, under variable conditions • To commence site demonstration as early as end CY2022 • TRL 7 or greater technology solutions • Prime mover utilisation • Planned redundancy to be considered
2. Electrical Infrastructure	<ul style="list-style-type: none"> • Battery swap or fast charge • Located at mine site, adjacent town or other nominated location • Potential mine or community synergies 	<ul style="list-style-type: none"> • On-site Electricity reticulation • TRL 6 or lower technology solutions • Hydrogen fuel cell recharge 	<ul style="list-style-type: none"> • Other vehicle integration into infrastructure eg commercial light vehicles and other mine vehicles etc • To commence demonstration as early as end CY2022

			<ul style="list-style-type: none"> • TRL 7 or greater solutions • No constraints on power supply, where connected to the grid
3. Small scale renewable energy	<ul style="list-style-type: none"> • Solar or wind 	<ul style="list-style-type: none"> • Grid connection to small scale renewable energy infrastructure • TRL 6 or lower technology solutions • Energy supply systems that utilise any fossil fuels 	<ul style="list-style-type: none"> • To commence demonstration as early as end CY2022

This EOI is seeking participants in this first round that can meet one (or all) of the above mentioned scope items, such that The Consortium can then work with vendors to combine as required, in order to deliver a complete solution by site. The EOI is also seeking innovative business models (including that with local communities) and therefore would like to see in addition to the technology solution, any alternate business models the vendor may consider ideal to incorporate in their offering.

4.2 Minimum requirements

The Invitee is invited to submit an EOI which includes all proposed rates in delivering the operational expenses (OPEX), capital expenses (CAPEX) and quantities (eg single battery, dual battery in retrofit options) and includes all applicable information for the provision of surface long haul electric vehicle solutions across the member sites (refer to clause 5). This should include as a minimum:

1. Vendor capability statement with technology and commercial details;
2. Risk assessment of technology (including against jurisdictional regulations);
3. Forecast technology learning curve and details to commercialisation (to meet the future state). Noting, the expectation is that Invitees technology is at a TRL 7 level as a minimum;
4. Carbon footprint of battery development, and battery recycling opportunities (if available);
5. Potential for infrastructure to be used to support further expansion of electrified mobile fleet, including in-pit mining equipment, commercial transport and community services; and

6. Potential for capability, skills and economic development in the states in which your solution is proposed for member sites, assuming successful technology demonstrations lead to full time adoption

It is requested that EOI's contain pricing for a lease type trial arrangement of the battery solution in vehicle and a "purchase" price at the end of a successful demonstration. Please indicate which sites or regions you consider your solution would be suitable or adaptable to.

5. Site/s

Multiples sites and regions within The Consortium members companies have application for surface long haul electric vehicles. These sites are located across states in Australia as outlined in *Figure 5.1 – Map of Electric Mine Consortium company sites across Australia*. Whilst the Consortium companies have various freight contracts in place across sites, the intention is to use this EOI to gain awareness of available solutions such that they can be further explored and applied either internally or in conjunction with freight providers within the bounds of current agreements. Consortium member companies are interested in **all** solutions that could be applied at one or all of their sites across the three areas of scope as defined in clause 4.1 of this document. The primary use cases for these solutions is to enable movement of

- General goods;
- ROM (Run of Mine) material/broken rock; and
- Processed commodities (eg ore concentrate).

in the surface long haul application, which includes movement from source points or drop off points in offsite locations to or from the minesite.

Consortium member mining companies with Australian sites include:

- Newcrest Mining;
- South 32;
- Evolution Mining;
- GoldFields;
- IGO;
- Iluka; and
- OZ Minerals.

Figure 5.1 Map of Electric Mine Consortium company sites across Australia.



6. Estimated Date

It is estimated that any surface long haul site demonstrations that consortium members would like to move ahead with, could commence late CY2022 or early CY2023. However, Invitees should provide solutions that can commence any time in the next 12 months.

7. Duration

The duration of the site demonstration of surface long haul are expected to be in the order of 6 months to complete the proof of concept for our operations and associated conditions (environmental and other).

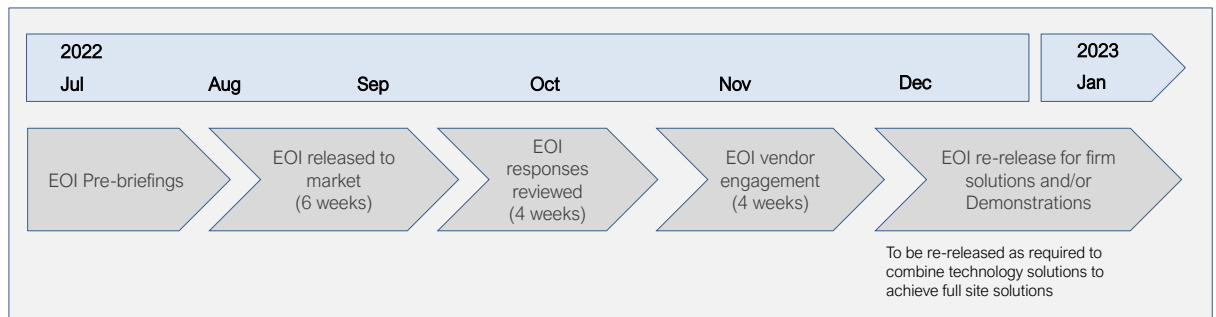
8. Expression of Interest Timeline

The key dates for the EOI and potential selection process is set out in Table 8.1.

Table 8.1 Expression of Interest Key Dates

Description	Date
Issue Invitation for EOI	1 August 2022
EOI Briefing Session (if required)	10 August 2022
EOI submission Closing Date	16 September 2022
Review and evaluation of Invitee's responses	By 14 October 2022
Intended commencement date for next stage of selection process	21 October 2022

Figure 8.2 Expression of Interest Timeline



9. Form of Acknowledgement

The Invitee is requested to complete and return the Form of Acknowledgement set out in Schedule 1 within three (3) days of receipt of this Invitation for Expression of Interest to indicate whether it will submit an EOI.

10. Closing Date for Expression of Interest

The Company must receive the Invitee's EOI by 1700 (WST) 16th September 2022.

11. Expression of Interest Submission

11.1 Price

The Invitee must submit a proposal which is inclusive of all proposed rates - OPEX, CAPEX - and quantities necessary for the Invitee to complete the Scope as described in clauses 2 and 4. All rates/prices must be in Australian Dollars and exclusive of any applicable Goods and Services Tax ("GST").

11.2 Form of Expression of Interest

The Invitee must submit the EOI by the Closing Date via email to surfacelonghaulev@stateofplay.org

11.3 Expression of Interest Information Requirements

The Invitee must submit the EOI to the Company in writing as specified in clause 4. The EOI must include the date the EOI was submitted and all completed Schedules:

- a) Form of Acknowledgment (Schedule 1);
- b) Invitee Company Information (Schedule 2);
- c) Capability (Schedule 3); and
- d) Commercials (Schedule 4).

Note: Please complete all Schedules in Excel format using the templates provided with this document

11.4 Verbal Communications

The Consortium will not accept a verbal response to this Invitation for Expression of Interest.

12. TERMS AND CONDITIONS

12.1 Invitation

This Invitation is not an offer. It is a formal request for Invitees to submit a response for the provision of goods and / or services set out in clause 4. Nothing in this Invitation is to be construed as creating any binding contract for the provision of goods and / or services (express or implied) between the Company and any Invitee. In consideration of being invited to submit an EOI for the supply of goods or services to the Company, the Invitee is deemed to agree to and be bound by the terms and conditions of this Invitation for Expression of Interest upon submission of an EOI to the Company.

12.2 Accuracy, Release and Indemnity

The Company does not warrant the accuracy of the content of this Invitation for Expression of Interest and will not be liable for any omission from the Invitation documents. The Invitee releases from and indemnifies and holds harmless the Company, its officers, servants and agents against any claim, demand, debt, accounts, expenses, costs, liens, actions and proceedings of any kind ("Claim"), by the Invitee or any person claiming through the Invitee in any way relating to this Invitation for Expression of Interest.

12.3 Amendment

The Company reserves the right to revise, amend, or revoke this Invitation for Expression of Interest by notice to the Invitee/s at any time prior to the Closing Date.

12.4 Late Invitee's response

If an Invitee's response is lodged after the Closing Date, it will be disqualified from the EOI process and will be ineligible for consideration unless: a) the Invitee can clearly document to the satisfaction of the Company that an event of exceptional circumstances causes the Invitee's response to be lodged after the Closing Date; and b) the Consortium is satisfied that accepting a late submission would not compromise the integrity of the EOI process.

12.5 Next Stage of the Expression of Interest

Process After evaluating all of the Invitees' responses, the Company may without limiting other options available to it, do any of the following:

- a) prepare a shortlist of Invitees and invite further offers from those invitees;
- b) conduct a subsequent procurement process calling for the goods and / or services or any similar or related goods and / or services;
- c) enter into pre-contractual negotiations with one or more Invitees;
- d) decide not to proceed further with the EOI process or any other procurement process for the goods and / or services; or
- e) commence a new process for calling for Invitee's responses on a similar or different basis to that outlined in the original Invitation for Expression of Interest.

12.5.1 No legally binding contract

The Consortium's:

- a) advice to an Invitee that it has been shortlisted by the Company;
 - b) advice to an Invitee that it is the preferred Invitee; or
 - c) commencement of pre-contractual negotiations with any Invitee,
- does not give rise to a contract (express or implied) between the Invitee and the Company. No legal relationship will exist between the Company and an Invitee relating to the provision of the goods and / or services unless and until such time as a binding contract is executed by both parties in writing.

12.6 The Consortium's Rights

Notwithstanding anything else in this Invitation, and without limiting its rights at law or otherwise, the Consortium reserves the right, in its absolute discretion at any time, to:

- a) vary or extend any time or date specified in this Invitation for all or any Invitees; or
- b) terminate the participation of any Invitee or any other person in the EOI process.

12.7 Confidentiality

The Invitee acknowledges that:

- a) all drawings, specifications and other information whether oral, printed, electronic or graphic contained in this Invitation for Expression of Interest or obtained by the Invitee from the Companies of the Consortium (hereafter referred to as "Information") is proprietary, confidential and commercially sensitive information of the Companies of the Consortium;
- b) in consideration of the Company providing the Information to the Invitee to enable the Invitee to submit an EOI, the Invitee undertakes: i. to keep the Information strictly confidential; ii. not to use or apply the Information for any manner or any purpose

other than for the purpose of providing the EOI; and iii. not to disclose the Information to any third party without the prior written approval of the relevant Company;

c) the Invitee must promptly and fully disclose to the Company any development or modification to the Information. All developments or modifications the Invitee makes to the Information will, upon inception, become the proprietary, confidential and commercially sensitive Information of the Company;

d) the Invitee must not record the Information in any way other than to permit the Invitee to prepare its EOI. If the Invitee elects not to submit an EOI, upon submission of the EOI, or upon the Closing Date, whichever is earlier, the Invitee must immediately destroy the Information (including any copies); and

e) the Invitee must ensure that any of its employees, agents, sub-contractors, or any other person to whom it discloses the Information will be bound by terms no less onerous than those contained in this Confidentiality clause.

SCHEDULE 1

FORM OF ACKNOWLEDGEMENT

The Invitee must complete this Form of Acknowledgement and return by email:

Email: surfacelonghaulev@stateofplay.org

EXPRESSION OF INTEREST – Surface long haul

With reference to the above Expression of Interest, we acknowledge receipt of the Expression of Interest Documents issued on 1st August 2022.

- We intend to submit an Expression of Interest for this scope and we acknowledge that we have checked the contents of the Expression of Interest Documents provided and confirm receipt of the complete package*
- We do not intend to submit an Expression of Interest for this scope and herewith return the complete Expression of Interest Documents*

* Delete whichever is not applicable.

Company Name and ABN

Contact Name

Contact Position Title

Contact Telephone Number

Signature

SCHEDULE 2

INVITEE COMPANY INFORMATION

Invitee Company Name _____

[Invitee to complete and return via email in Excel format]

Company Information Information about the company/entity submitting the Quotation.	
Company Name	
ABN	
ACN	
Street Address	
Mailing Address	
Telephone Number	
Authorised Signatory Information about the person/s authorised to bind the Invitee	
Name	
Position Title	
Telephone Number	
Email Address	
EOI Contact Information about the point of contact during the EOI process (if different to authorised signatory)	
EOI Contact Name	
EOI Contact Position Title	
EOI Contact Telephone Number	
EOI Contact Email Address	

CAPABILITY

Invitee Company Name _____

[Invitee to prepare documentation requested below as applicable in Excel format. The Consortium is interested in vendors/METs companies that have technology that can be deployed into the site applications described in Clause 5. We recognise that not all Invitees may have minimum requirements listed below, but encourage Invitees to submit tenders with the intention to work together to enable technology deployment within a mining environment. The Consortium is willing to partner with successful Invitees in the deployment process. Non-confirming bids are welcome.]

INFORMATION REQUIRED	MINIMUM DETAILS
Financial Details	<ul style="list-style-type: none"> A copy of your most recent Annual Report (if applicable)
Health, Safety & Environment (HSE)	<ul style="list-style-type: none"> Provide copy of your HSE policies and an overview of how these areas are managed whilst undertaking work at various work sites (minesite and offsite). Provide HSE statistics for the last 12 months which include LTI and MTI frequency rates. Provide environmental management statistics (if available) Demonstrate any previous experience in managing environmentally and culturally sensitive projects Identification of key risks and how they will be managed (including fire suppression systems)
Personnel	<ul style="list-style-type: none"> Provide a high-level organisation chart which indicates personnel location. Provide total work force numbers organised by relevant trades, professions and management positions and locations.
Local Workforce Participation	<ul style="list-style-type: none"> Provide details on how to maximise the use of local resources across states in Australia where

	your solution is either sourced or is proposed to be deployed
Indigenous Workforce Participation	<ul style="list-style-type: none"> • Provide details on how to maximise the employment of Indigenous personnel (either directly or indirectly) via your proposal
Fleet and Equipment	<ul style="list-style-type: none"> • Provide details of current major fleet, charge infrastructure and renewable energy equipment including quantity, age and technology employed (as applicable) • Battery asset – life of battery, life of electric motors, and range and risk of upside and downside.
Previous Experience	<ul style="list-style-type: none"> • Provide details of similar scopes / projects/ demonstrations undertaken, including: <ul style="list-style-type: none"> o location; o industry / commodity; o scale / project value; o term; and o dates. • Specifically demonstrate an ability to execute projects within / under budget and within schedule requirements.
Current Projects/ Demonstrations	<ul style="list-style-type: none"> • Provide details of current projects/demonstrations and forecast completion dates
General	<ul style="list-style-type: none"> • Provide any additional information that will assist you to progress to the next stage, including <ul style="list-style-type: none"> o Deployment timeframe o Operating assumptions (including rate of charging or time for battery swap, truck speed) o Vendor technology solution (please describe) eg battery chemistry, energy capacity o Risk assessment of technology (including against jurisdictional regulations) o Forecast technology learning curve and details on current hurdles to commercialisation (to meet the future state)

SCHEDULE 4

COMMERCIALS

Invitee Company Name _____

Invitee to prepare documentation requested below as applicable in Excel format, to be prepared separately for surface long haul battery solution, charging infrastructure solution and small scale renewable energy solution.

Note, Invitee to state level of accuracy of costs.

INFORMATION REQUIRED	MINIMUM DETAILS
Capital costs	<ul style="list-style-type: none"> Capital costs to be incurred by the EMC member company to establish technology solution on a site and as provided by the Invitee <ul style="list-style-type: none"> Including details on quantities required and capital cost per unit Including all interfaces required, and to be provided by the EMC member company
Operating costs	<ul style="list-style-type: none"> Operating costs (per unit) across all operating elements provided by the Invitee
Contracting model	<ul style="list-style-type: none"> Propose contracting model outlining cost provision expected by party (across capital and operating costs), including any innovative financing options