



# Annual Report

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For the 12 Months ended 30 June 2021



Australian Government  
Department of Industry, Science,  
Energy and Resources

Industry  
Growth  
Centres



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# Executive Summary





**Adrian Beer**

Chief Executive Officer  
METS Ignited

METS Ignited's purpose is to strengthen Australia's position as a global hub for mining innovation and enhance the global competitive advantage of the Australian Mining, Equipment, Technology and Services (METS) sector. In October 2020 the Federal Government announced the Modern Manufacturing Strategy, and within this the National Manufacturing Priorities. Resources Technology and Critical Mineral Processing has been recognised as one of the six National Manufacturing Priority Sectors. This confirms the important role Australia's METS sector plays in the health of our national economy. The success of Australia's METS sector has created more highly skilled jobs, increased exports, and has increased the economic contribution of Australia's resources sector.

METS Ignited has responded to support the needs of Australia mining industry as it leads Australia through one of our toughest economic challenges. The METS sector has demonstrated its resilience, whilst importantly not losing sight of the future needs of Australia's global leading resources industry.

From the companies that have participated in collaborative project funding within METS Ignited, the most successful companies (measured by jobs created, revenue generated and demand growth) have learned:

- Technology on its own will not achieve growth. The commercial delivery model is critical to success, and reduces waste in terms of company resource and production capacity.
- The hardest obstacle to overcome when incorporating new technology is going from proven prototype to commercial scale.
- Partnering with a deliberate purpose yields the greatest success in terms of overcoming the commercialisation support chasm.

METS Ignited's investment and support from both the company adopting, and the company providing the technology has overcome these challenges, and the outcomes achieved even through these challenging times is remarkable. We have demonstrated that shifting the focus of investment support to Australian technology companies who commercialise innovation to support our national priority sectors will deliver significant flow on benefits to our local economy.

As we enter our sixth year of operations, METS Ignited has identified a high impact opportunity to enhance the Australian innovation ecosystem - utilising the capabilities built in METS Ignited to support commercialisation of stranded technologies in the resources sector. Australia is in a unique position to capitalise on the decades of sustained investment in innovation and technology – addressing the challenges faced by our large and complex primary industry sectors. The ongoing success of Australia's leading METS sector has expanded across other national priority sectors of the Australian economy.





# The 2020/2021 Year in Review



As outlined in our Business Plan, the structure of the Growth Centre was three areas of focus; Strategic Priorities, Operational Programmes and Project Funds.

With the impacts of COVID-19 being felt across the sector, the mining Industry has led the way through what has been an extraordinary set of circumstances. The resources sector has always provided significant opportunity for us here in Australia—and continues to demonstrate its value beyond the economic contribution of our exports. METS Ignited has played a critical role leading the advancement of our technology capability to achieve greater commercial maturity, enabling the innovation from our sector to reach other priority industries.

Over the six years of operations as one of the Industry Growth Centres, METS Ignited has enabled the development of Australia's Mining Equipment, Technology, and Services sector into a world leading segment of the national economy. METS Ignited is now deeply embedded in the resources sector, enabling Australian technology to serve and support global markets within our national economy. These high visibility priorities expand upon the global competitive advantage of Australia's METS sector and will drive the future of Australia's innovation ecosystem.

Our Strategic Priorities of Transformative Automation in METS and Mining (TAMM), and our Industry driven Research, have identified a gap in the commercialisation of the Australian innovation

ecosystem. There is a large amount of under-utilised innovative technologies developed by researchers, technology innovators yet to be commercialised (delivered to the market as products and services) from within our local economy. By utilising the skills, assets and industry experience within the organisation, METS Ignited has uncovered pathways to commercialise these stranded technologies, with revenue through services to contribute to the future operating costs beyond the Growth Centre funding agreement.

The Operational Programmes of the Growth Centre are the activities most visible to the everyday communities that we support and influence. METS Ignited enhances the skills and capabilities of the



sector and developing its export capabilities through our:

- Masterclasses—Future Skills and Workforce
- Accelerators—Commercial maturity for METS
- Clustering—Collaborative sustainable ecosystem
- International Markets—Coordination program

METS Ignited's Accelerators and Masterclasses were oversubscribed, and the organisation rapidly responded to increase the number of positions in the courses, as well as increasing the content to address demand. Even with these significant increases, METS Ignited was still unable to cover the overwhelming demand from the market for our programmes. We continue to expand our offerings to focus on addressing skills for Australia's future, and commercialising technology in our regional communities to meet the industry demand of the future.

The Virtual Supplier Development Program (VSDP) supported the ongoing international demand for our skills and experience, with a surprising number of METS companies increasing their international business during the pandemic through establishing partnerships in overseas markets. This program was also in high demand, and METS Ignited was able to increase the participation for the program. The volume of challenges has extended the VSDP into 2021-22 period.

While internal border restrictions placed constraints on many segments of our economy, the Australian METS sector and the mining industry it supports has continued to charge ahead. The cornerstone of METS Ignited's impact on the sector is our collaborative project funds. These projects demonstrate Australia's capabilities as an industry leader, with the focus on the local productisation of our innovation and scale.

Over half of METS Ignited's collaborative project funds have completed, with almost 70% of our funds invested. The industry leverage of our investment is 1.57, with a number of the projects receiving additional investment support as the scope expands beyond the original project. METS Ignited collaborative projects do not include the applicant's investment in the measurement of industry contribution. This investment, plus the additional support from industry in the current projects extends the leverage well beyond 3 to 1 for every dollar investment by METS Ignited.

METS Ignited remains on track to deliver against its project objectives, while outperforming on our operational programs and expanding our reach to serve the technology needs of our National Manufacturing Priorities.



# Progress Report

METS Ignited's goal is to strengthen Australia's competitive position as a global hub for mining innovation and enhance the global competitive advantage of the Australian METS sector. The four core objectives of the Industry Growth Centre are: accelerating commercialisation of innovation, enhancing industry capability and workforce, growing exports, and identifying regulatory reforms that can positively impact the sector.

The strategy that METS Ignited has led to achieve these objectives is to focus on the following activities:

- ▶ Project Funds – Collaborative Industry-led Investment
- ▶ Masterclasses – Future Skills and Workforce
- ▶ Accelerators – Commercial Maturity for METS
- ▶ Clustering – Collaborative Sustainable Ecosystem
- ▶ International Markets – Coordination Program

In addition to these strategic priorities, METS Ignited continues to provide guidance and support for skills development, for research investment, (CRCs, CRC-Ps and ARCs), regulatory improvements, and evolving operationally to adapt its organisational design and structure to meet the changing needs of its stakeholders.

The success experienced has created an increased demand for more highly skilled jobs, has grown our technology exports, significantly grown the economic value generated by the METS sector.



## Project Funds

The METS Ignited Collaborative Project Funds support industry-led projects to improve the productivity, competitiveness and innovative capacity in the METS sector. The four additional projects receiving over \$6m in combined innovation funding from METS Ignited and industry were announced during the reporting period. In addition, one of the original Tranche 1 projects that did not proceed due to industry funding support has now commenced. Six of the seven Tranche 2 projects are complete, and two of Tranche 5 have also been completed. One of the projects delayed due to COVID-19 has been re-established with a new industry partner. An updated agreement will enable this project to continue and reach completion within our funding period. A number of variation requests have been received to increase the scope of existing projects at the request of the industry partners.

In addition to the Projects Funds provided under Commonwealth funding, we also had funding from the Queensland Government. As at 30 June 2021, five Project Fund Agreements have been executed. four projects are due for completion by 31 October 2021. The remaining project is scheduled for completion in August 2022 and is on track for delivering a successful outcome.

## Masterclasses

METS Ignited is focussed on enhancing industry skills and capabilities. Through industry consultation it was identified that the sector would benefit from a series of specific training programmes to improve the commercial maturity of the sector. There are some Australian METS companies that are highly skilled in technical solution development but have limited capabilities in the commercialisation of those solutions.

The 2020–21 Masterclass programme delivered:

- Intellectual Property (IP) Masterclasses focussed on types of IP protection available to Australian businesses, how they differ and how they can be best utilised. Following some pre-course work, the masterclasses ran across 3 x 2 hour sessions followed by optional one-on-one sessions with the course facilitators to confidentially raise any potential IP issues. Nominations were sought through the METS Export Hubs.
- Sales and Marketing Strategy Masterclass – designed to build a sales and marketing strategy
- and included identifying target customer segments, effectively differentiating from competitors and engaging a compelling value proposition. From here, the marketing mix can be aligned to create the best platform for sales efforts. This masterclass was delivered across 5 x 2 hour sessions. Due to unprecedented demand five separate courses were run.



## Accelerators

Since 2017, METS Ignited has piloted a series of collaborative Accelerator programs with funding and support from state and federal governments, local innovation hubs and industry mentors. The Accelerators have been pitched at scale-up businesses looking to increase their skills and capability development, to realise their commercial maturity, become globally competitive and break into new markets. These programs have attracted a mix of regional and metropolitan scale-up companies with solutions for the mining and resources industry.

Since their inception, METS Ignited has broadened the scope of the programs to provide commercialisation pathways to technology innovators with solutions in Robotics and Automation, Digital and Data, and Sustainability and Responsible Mining. METS Ignited's partnership with Quantum Technology Exchange in 2020 has expanded the opportunity again, providing cross-sector business accelerators to scale-ups in Mining, Energy, Agriculture, Defence and Space.

2020/21 saw Quantum Technology Exchange deliver two significant state-based Accelerators – one in Queensland focussed on METS and one in WA with a cross-sector focus. In addition, Regional Accelerators were successfully piloted in Queensland for the second year.

## Clustering

Initiated with support from the Queensland Government in 2018, METS Ignited's ongoing support of the development and growth of industry-led clusters, brings together METS and mining companies, research institutions, government and industry bodies. Following a series of events and workshops investigating real industry challenges, METS Ignited attracted companies to focus their complementary expertise in a number of areas including Robotics and Automation; Data and Digital; and Tailings and Mine Affected Water.

In 2020–21, METS Ignited expanded this program nationally. METS Ignited supported by state governments now backs clusters across Australia, with Cluster Development Managers in Queensland, Western Australia and South Australia supporting these clustering initiatives:

- Queensland Robotics
- CleanTEQ (formerly Tailings TEQ)
- NERA's Australian Hydrogen Technology Clusters with METS sector synergy
- RoboWest (WA – in development)
- Space Technologies (Qld, SA + WA – in development)
- Innovation (Mackay – in development)
- TCI Oceania





## International Markets

Australia has a strong international reputation as a global hub for Mining Technology and Innovation that has created significant demand internationally. Many tier one global technology companies come to Australia to collaborate with our local mining community to develop their technology solutions. The METS Ignited International Markets initiative aims to support Australian METS companies to accelerate and grow into global mining hubs through a range of flexible programs linked to companies, industry, or market needs.

METS Ignited's programmes support building METS companies' capabilities in addressing international markets in a commercially sustainable and profitable way. To date, METS Ignited has established a series of collaborations including:

- Peru Mining Innovation Hub, Mining Cluster of Southern Peru, Chile Expande Open Innovation Program
- Canada: Engaged with CEMI and potentially extending to CMIC, NORCAT, SAMSSA on the back of the FTA with Canada in force since 2018
- Working on collaborations and partnerships to take advantage of FTA's between Australia, Chile, and Peru
- Locally, over 30 Australian METS companies have benefitted from facilitated introductions to internal partners.

To ensure that Australia's METS sector remains strong and competitive, ready to support the global mining industry in the recovery post COVID-19, in 2020-21 METS Ignited planned to undertake a number of activities focussed on international markets. In addition to the IP and Trademark Masterclasses, we planned to implement a series of virtual trade missions, gathering industry representatives from the major mining economies to present their industry challenges to the Australian METS sector to develop solutions to meet the industry needs.

METS Ignited planned to operate five Virtual Trade Missions during the 2020-21 with a total of 100 METS participants attending across the program.

As 2020-21 progressed the virtual trade missions evolved into a Virtual Supplier Development Program. This involved five separate challenges with 143 participants.



## *Maximising opportunity and sustainable growth*

### Operations Update

METS Ignited has continued to progress from strategy development to execution, engaging with a diverse range of mid-tier mining companies to define the future requirements from the METS sector. Their major technical challenges from this mining reference group are focussed on greater operational visibility, with the adoption of more interoperable technologies to support continued production within a challenging market environment. The mid-tier engagement has proved to be an effective strategy to aggregate demand, promote rapid development of solutions, and achieve implementation and wider distribution of automation products and services.

Adapting to disruption in the mining industry is an area where Australia continues to lead the world. COVID-19 as a major disruptor has acted as a catalyst to drive adoption of digital technologies that were previously being implemented in a more gradual manner. As expected, there has already been a dramatic increase in demand for digital technologies, automation technology, robotics and remote operations capabilities in response to the pandemic.

A cornerstone of Australia's resources sector is our ability to innovate. There is little doubt about the strength of Australia's technology and research capability, supported by the sustained investment from our resources sector over many decades. While Australia is a recognised world leader in resources innovation, the majority of our technology is taken offshore to be commercialised. The application of advanced technologies from within our economy will enable mining to meet the future demands of society in a sustainable way.

Building on the success of our Growth Centre, METS Ignited is establishing Australian SME's as the channel to deliver proven technologies to market. This will continue to increase the demand for local manufacturing, increase local jobs, build the long-term career prospects for STEM skills in country, and will increase the number of innovative solutions available to the market.



## Industry-driven Research FY2020-2021

### **CRC applications:**

METS Ignited continued to drive engagement with the research community, providing significant support for CRC applications, and working more closely with the Department to understand priorities for investment and the evaluation process. METS Ignited was pleased to participate both in the assessment process, and providing direction and support to numerous applications, two of which were successful.

### **Successful applications in CRC Round 22:**

Digital Finance CRC

Heavy Industry Low Carbon Transition (HILT) CRC

### **CRC-P Applications:**

In Round 9, a total of 11 applications were reviewed by the Growth Centre and disappointingly only one was awarded. The Growth Centre had engagement with seven of the researchers in their bid applications. In Round 10 of the CRC-P two applications reviewed by METS Ignited. From round 11, METS Ignited were consulted by over a dozen applicants, and evaluated 13 applications, 5 of which were successful. In the reporting period, the strongest CRC-P most closely aligned to the Growth Centre objectives were not provided to METS Ignited. Fortunately, a number of those were successful. In the same period, a number of high potential applications did not achieve funding support whilst applications with significantly lower scoring against the criteria were successful. As a consequence, METS Ignited has attempted to engage with the CRC-P program to gain a clearer understanding of their selection process and the importance of the Growth Centre feedback.

### **Successful CRC-P applications:**

- Alumtek Minerals – Extracting Critical Minerals and Rare Earths from Bauxite Residue
- Developing high-capacity dynamic rock reinforcement for underground mines
- Wireless mining conveyor technology to Improve safety and reduce outages
- Underground mine LoRa network for monitoring/control/backup/rescue/robotics
- High value-added manufacturing from polymetallic critical minerals
- Vertiia powertrain development, for high speed eVTOL transport

### **ARC ITRP applications:**

In 2021 a total of nine applications for ITTC and ITRH were reviewed by the Growth Centre, with seven engaging METS Ignited during the preparation of their bid.



# *Supporting Australian companies to economically expand into international markets*



## Growth Centre Sustainability

In October 2020, the Prime Minister announced the Modern Manufacturing Strategy to build Australia's manufacturing capabilities with the goal of increasing future national resilience and driving economic recovery from the impact of COVID-19. The new strategic direction given to the Industry Growth Centre's require alignment of our activities to the Modern Manufacturing Strategy, and specifically within that the National Manufacturing Priorities, by June 2021, whilst looking to establish a sustainability plan beyond Growth Centre funding.

Australia's METS sector is recognised world leader in technology and innovation, but has been challenged in commercialising that technology within our local economy, missing out on the financial benefit of making it local and supplying it for international markets to consume.

METS Ignited has undertaken significant research over the past 12 months to identify the specific challenges in commercialising our local innovation. Our



## Growth Centre Sustainability (continued)

detailed analysis has explicitly focussed on some key areas of our national economy:

Understanding why the majority of Australian Innovation is productised overseas by international markets or vendors.

Why raising capital and investment support programs including R&D tax incentives fail to encourage local innovation to remain in country.

How to improve the competitive position (the attractiveness) of Australia as a country to establish manufacturing and related activities to productise and commercialise innovation.

The outcome identified a substantial pool of stranded technologies in the Australian innovation and research ecosystem not available to meet market demand. While the research program started with resources technology and critical mineral processing – (specifically the technology required to make Australia’s critical mineral resources attractive for resource companies to make financial investment decisions to convert into production) the outcomes confirmed the challenges were more systemic in Australia and consistent across many of the National Manufacturing Priorities.

The two key findings were grant funding and research support programs in Australia are focussed specifically on the needs of the end market operators, and not the companies that serve those end market needs. Similarly, initial indicators suggested that investors are reluctant to invest in Australian innovation – where our research has uncovered the opposite; Investors are bullish on Australian technology, particularly where it applies to multiple industry sectors. The apparent reluctance is directly related to the challenge of finding suitable investments.

Based on the lessons learned as an Industry Growth Centre, METS Ignited has identified a potential high-impact opportunity – to establish a centre for accelerating the Productisation of Stranded Technologies starting with Resources Technology and Critical Mineral Processing.

METS Ignited Growth Centre has identified a gap in the Australian innovation ecosystem which forms the basis of our Growth Centre sustainability plan. METS Ignited will generate income from products and services that facilitate bringing stranded technologies to market within our national economy. Success will increase our local manufacturing potential, expand long-term career prospects for STEM skills in country, and will increase the number of innovative solutions available to the market.

This exciting opportunity is aligned with the Federal Government’s Modern Manufacturing Strategy and the National Manufacturing Priorities, and will start with our focus on Resources Technology and Critical Mineral Processing.







# Key Performance Indicators

Program Objective	Performance Objectives	2020-2021 Outcome
<b>2.1.1 TAMM (Transformative Automation in METS and Mining)</b>	The MRG stakeholder program (Mining Reference Group) engaged small to mid-tier mining companies in order to aggregate demand for problem areas. The MRG Defined vendor requirements for suppliers to address the market opportunity, attracted support (specific investment) for the METS sector to effectively develop products and services to meet their demand.	While the lack of inter-operability and challenges with integration have been identified by the of the multiple different digital and automated, technologies, a limited amount of investment from the mining sector was provided. A single large scale and significant project was established (Interoperability Initiative) to attract industry investment. The formation of the Electric Mine Consortium was successfully launched in March 2021.
<b>2.1.2 Industry Driven Research</b>	The time for research to deliver outcomes can be challenging for all but the larger mining companies. The Industry Research Program has recognised businesses with a shorter term survival imperative are more likely to push for transformational long-term change. METS Ignited is proactively framing the challenges of the Australian mining industry through the commercial implications, defining the work with the research community in collaboration with the commercial sector, to develop both the technical and the commercially viable outcome.	METS Ignited directly engaged and supported over 20 grant applications for CRC, CRC-P and ARC proposals. With the engagement of METS Ignited in the Industry Research programs, the commercial delivery aspect of technology has been introduced into the successful grant programs supported by METS Ignited, which will result in incremental financial benefit for companies that have invested into the research grant programs. In addition, METS Ignited worked with CRC Ore in the successful commercialisation of the CRC research outcomes through the finalisation of the CRC.
<b>2.1.3 METS Ignited's DGM Interoperability Programme</b>	METS Ignited attempted to provide the Australian METS sector access to a fully operational mine facility and interoperability lab to prove out technology innovation. With the impact of COVID-19 on operations and changes in ownership, the objectives of this initiative were not realised. To ensure the intent was still delivered, METS Ignited worked with a range of separate test facilities and proving grounds defining a network of test facilities in partnership with regional programs including AARP in Western Australia, the Resources Centre of Excellence in Mackay, and the establishment of an underground test mine facility to be launched next year.	Providing the METS sector with access to multiple independent facilities, through the co-ordination of programs in partnership with State Governments, METS Ignited has been able to maintain the commercial development of technology outcomes for our industry research partners through the border control challenges and lockdown periods. As outlined in the Resources Technology and Critical Mineral Roadmap, "...By providing these test facilities, resources technology companies can quickly validate their business case and .... test facilities can reduce the development to commercialisation cycle from 10-15 years down to 12-18 months..." METS Ignited continues to invest and support the multiple facilities as a key element of our future sustainability program.



Program Objective	Performance objectives	2020-2021 Outcome
<b>2.2.1 Masterclass programme</b>	The 2020–21 Masterclass programme collaboration is focussed on developing the capabilities of protecting intellectual property through trademarks and Intellectual Property (IP), and building the commercial maturity through dedicated sales and marketing strategy courses. The objective is a minimum of 15 Masterclass events delivered across regional centres with a target of 25 participants per Masterclass.	The implementation of an online Learning Management System, combined with a virtual delivery environment, enabled METS Ignited to overdeliver on this objective. In the 2020–21 period the METS Ignited Masterclass programme was oversubscribed. METS Ignited delivered 19 Masterclasses, with an average of 39 participants per event. The success of the programme has resulted in additional courses being added that will extend into 2021–22 reporting period.
<b>2.2.2 METS Accelerator programme</b>	<p>The METS Accelerator programme is targeted towards technology scale-ups for METS SMEs in FY21. METS Ignited has partnered with Atomic Sky to deliver the Accelerator programme for the 2020–21 financial year.</p> <p>With the program now delivered online, METS Ignited capitalised on this new opportunity to invite additional stakeholders to the audit and evaluate sessions. METS Ignited planned to deliver two Accelerators, each containing an estimated eight topics, with a total of approximately 16 webinars throughout the year.</p>	Similar to the Masterclass programme, METS Ignited Accelerators were also oversubscribed. Over 100 applications were received for attendance, and a number of government business support agencies also engaged with METS Ignited to partner on the programme. METS Ignited delivered and additional three Accelerators (five in total) for the reporting period, each with four additional subjects added (12 subjects in total) and a total of 71 webinars throughout the year. In addition, due to the overwhelming demand for the course, the applicants that were unable to be accommodated were still invited to participate in some of the coursework and presentations where numbers were not limited.
<b>2.2.3 Clustering initiative</b>	<p>In 2020–21, METS Ignited expanded our Clustering programme nationally. In addition to supporting the new SME Export Hub initiatives, METS Ignited is seeking direct funding from each of the state governments to appoint local state-based</p> <p>Cluster Development Managers to support local companies as they recover from the impacts of the Pandemic. METS Ignited's objectives were to appoint two dedicated Cluster Development Managers supported by State Governments, with three new clusters to be established.</p>	METS Ignited appointed two Cluster Development Managers. Andrew Scott was appointed as the National Cluster Development Manager, and Alan Fenelon was hired in Western Australia with the support of the Western Australian Government Department of Jobs, Tourism, Science and Innovation. Four additional clusters have been established with the support of METS Ignited, including RoboWest (WA – in development), Space Technologies (Qld, SA + WA – in development), Innovation (Mackay – in development) as well as the establishment of a TCI Oceania secretariat in partnership with FIAL and NERA Growth Centres.



Program Objective	Performance objectives	2020-2021 Outcome
<b>2.2.4 International Markets</b>	<p>Exporting of equipment and products has been significantly impacted by the global effects of COVID19, however the export of knowledge product and technology services has continued to expand and grow. Access to international markets through partnerships and collaborations has</p> <p>Enabled a number of METS companies to expand during the pandemic. METS Ignited objective was to operate five Virtual Trade Missions during the reporting period with a total of 100 METS participants attending across the programme.</p>	<p>METS successfully established the Virtual Supplier Development Program. Each program established an industry challenge as the basis of the “mission”. METS Ignited selected Austmine to provide the communications for the events to help with membership and industry profile, and in partnership with Link Miners in Peru, the five challenged attracted 143 participants. The success of the program has established a range of additional Virtual Supplier Programs. Where individual mining companies are conducting specific challenges, these are being delivered by the Austmine membership organisation.</p>
<b>2.3 Collaborative Project Funds</b>	<p>Prior to 2020-21, METS Ignited had a total of 21 projects with a combined industry value of \$24.3M invested (including Queensland Work program). During the period the final Tranche of projects were awarded (Tranche 4) with an additional four projects receiving funding. An additional three projects completed in the reporting period, with two projects impacted by COVID-19.</p>	<p>Projects in Tranche 4 have been awarded and are underway, with a scheduled completion within the funding period. Over \$3.2M of project funds were paid during the reporting period, with 70 per cent of the total investment complete. Twelve projects have completed their objectives, with the remaining projects scheduled to complete in the upcoming financial year. Industry leverage is tracking over 1.5 times the METS Ignited direct investment. A number of projects have extended with additional scope funded by the industry participants. Industry leverage does not include any funds investment by the applicant for project contribution.</p>







# Transformative Collaboration

The Electric Mine Consortium (EMC) was established as a driver to accelerate change in the broader resources sector. The EMC is emerging as a key vehicle for decarbonisation of the mining industry and will remain responsive to the rapidly changing external environment. The largest global companies are investing in low emissions technology or working collectively on solutions.



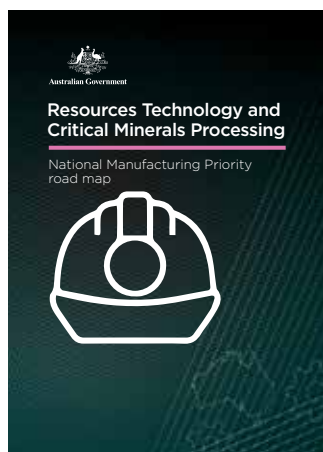




*Collaborative  
Industry-led Investment*



# Communications Data Points



## Resources Technology and Critical Minerals Processing - National Manufacturing Priority Roadmap

METS Ignited provided significant input into the Resources Technology and Critical Minerals Processing road map, developed in collaboration with industry. Published as a part of the national manufacturing priority sectors, the report outlines a 10 year vision, and a range of barriers and opportunities to achieve scale in manufacturing in the resources technology and critical minerals sector.

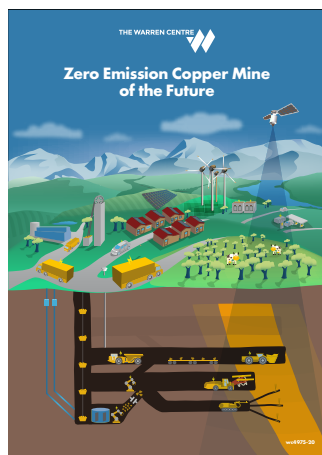
## Published Reports

The following reports and other media were produced through the reporting period:



### State of Play: Electrification

Emissions is playing an increasingly larger role in the Resources sector, both in the increased demand for critical minerals and energy metals, and in the challenges mining operations face in addressing their own emissions targets. Mine electrification is a major industry trend. The State of Play —Electrification report highlights the challenges and opportunities for the sector.



### Zero Emissions Copper Mine of the Future

In collaboration with the Warren Centre, METS Ignited SU [Totted the work in defining the Zero Emissions Copper Mine of the Future, highlighting the impact these pressures place on the existing mining methods and processes. A significant opportunity for the Australian resource's technology.



### State of Play: Delivery Report

We examine the challenge of delivering innovation effectively in large, mid-tier and junior mining and services companies across the mining industry. In a world-first, we are able to link innovation approaches with total shareholder returns. This report is a musthave for leaders looking to transform their companies into innovation leaders.



### METS Ignited 2021-22 Business Plan

We outlined the objectives of this financial year and the impact the METS Ignited Growth Centre is having on our economy, including our further ambition building on what we have achieved to date.

## Media Releases

### Strategic:

Unlocking opportunity through cross-industry collaboration ([afr.com](https://afr.com))

What role does the mining and resources industry have in Australia's economic recovery? | Mining Beacon

[metsigned.org/technology-provides-the-key-to-sustainable-economic-growth-for-australia/](https://metsigned.org/technology-provides-the-key-to-sustainable-economic-growth-for-australia/)

[metsigned.org/industry-led-interopability-project-enabling-rapid-wide-spread-adoption-of-technology/](https://metsigned.org/industry-led-interopability-project-enabling-rapid-wide-spread-adoption-of-technology/)

[metsigned.org/industry-led-interopability-project-enabling-activity-6815563195307057152-L4D1](https://metsigned.org/industry-led-interopability-project-enabling-activity-6815563195307057152-L4D1)

AusIMM Future Workforce – Digital Discovery Series

Electrics to Drive Zero Entry Mines Future Battery CRC - MEDIA-RELEASE-Electrics-to-drive-zero-emissions-mines-FINAL.pdf

Collaborative project to revolutionise gold plant data analysis. [australianresources.com.au/collaborative-project-to-revolutionise-gold-plant-data-analysis/](https://australianresources.com.au/collaborative-project-to-revolutionise-gold-plant-data-analysis/)

[australianmining.com.au/features/spark-ing-the-next-phase-of-electrification/](https://australianmining.com.au/features/spark-ing-the-next-phase-of-electrification/)

EP grants - [linkedin.com/posts/mets-ignited-australia-ltd\\_84m-for-12-aussie-innovators-developing-activity-6790476678117281793-i3xO](https://linkedin.com/posts/mets-ignited-australia-ltd_84m-for-12-aussie-innovators-developing-activity-6790476678117281793-i3xO)

### Projects:

[metsigned.org/project-update-emapper-project-completion-celebration/](https://metsigned.org/project-update-emapper-project-completion-celebration/) and [linkedin.com/posts/mets-ignited-australia-ltd\\_project-update-emapper-project-completion-activity-6807557083894976512-iYGV](https://linkedin.com/posts/mets-ignited-australia-ltd_project-update-emapper-project-completion-activity-6807557083894976512-iYGV)

[linkedin.com/posts/mets-ignited-australia-ltd\\_eco-cene-wins-deloitte-gravity-challenge-activity-6754625628558913536-DgzM](https://linkedin.com/posts/mets-ignited-australia-ltd_eco-cene-wins-deloitte-gravity-challenge-activity-6754625628558913536-DgzM)

[metsigned.org/turning-technology-into-tonnes-maxmine-secures-investment/](https://metsigned.org/turning-technology-into-tonnes-maxmine-secures-investment/) and [linkedin.com/posts/mets-ignited-australia-ltd\\_turning-technology-into-tonnes-maxmine-secures-activity-6805266501097005056-Amla](https://linkedin.com/posts/mets-ignited-australia-ltd_turning-technology-into-tonnes-maxmine-secures-activity-6805266501097005056-Amla)

[linkedin.com/posts/mets-ignited-australia-ltd\\_army-in-motion-our-people-future-ready-activity-6740049901738061824-yhqz](https://linkedin.com/posts/mets-ignited-australia-ltd_army-in-motion-our-people-future-ready-activity-6740049901738061824-yhqz)

[linkedin.com/posts/mets-ignited-australia-ltd\\_novel-sensor-detects-oversized-ore-activity-6725214350266646528-UOre](https://linkedin.com/posts/mets-ignited-australia-ltd_novel-sensor-detects-oversized-ore-activity-6725214350266646528-UOre)

[linkedin.com/posts/mets-ignited-australia-ltd\\_mineral-processing-mining-equipment-mining-innovation-activity-6720200629542756352-tp8z](https://linkedin.com/posts/mets-ignited-australia-ltd_mineral-processing-mining-equipment-mining-innovation-activity-6720200629542756352-tp8z)

### Industry Capability:

QuantumTX cohort hitting the accelerator to commercialise innovative technologies in Queensland

[metsigned.org/applications-open-for-wa-based-quantumtx-accelerator/](https://metsigned.org/applications-open-for-wa-based-quantumtx-accelerator/)

[metsigned.org/multi-sector-technology-accelerator-program-pitch-day/](https://metsigned.org/multi-sector-technology-accelerator-program-pitch-day/)

[metsigned.org/mets-ignited-welcomes-wa-cluster-development-manager/](https://metsigned.org/mets-ignited-welcomes-wa-cluster-development-manager/)

[metsigned.org/hydrogen-technology-clusters-announcement/](https://metsigned.org/hydrogen-technology-clusters-announcement/)

[metsigned.org/sales-and-marketing-masterclass-expansion/](https://metsigned.org/sales-and-marketing-masterclass-expansion/)

[linkedin.com/posts/mets-ignited-australia-ltd\\_phibion-welcomes-jacques-janse-as-new-ceo-activity-6798753771468935168-WU7u](https://linkedin.com/posts/mets-ignited-australia-ltd_phibion-welcomes-jacques-janse-as-new-ceo-activity-6798753771468935168-WU7u)

[linkedin.com/posts/mets-ignited-australia-ltd\\_hydra-consortium-confirmed-mining-and-technology-activity-6789703925181251584--zPQ](https://linkedin.com/posts/mets-ignited-australia-ltd_hydra-consortium-confirmed-mining-and-technology-activity-6789703925181251584--zPQ)

[linkedin.com/posts/mets-ignited-australia-ltd\\_10-start-ups-helping-shape-the-future-of-sustainable-activity-6757452542193504256-KAKy](https://linkedin.com/posts/mets-ignited-australia-ltd_10-start-ups-helping-shape-the-future-of-sustainable-activity-6757452542193504256-KAKy)

[linkedin.com/posts/mets-ignited-australia-ltd\\_2020-premiers-awards-winner-consilium-technology-activity-6743052463156297728-k6VA](https://linkedin.com/posts/mets-ignited-australia-ltd_2020-premiers-awards-winner-consilium-technology-activity-6743052463156297728-k6VA)

[linkedin.com/posts/mets-ignited-australia-ltd\\_queensland-based-vayeron-steps-onto-the-world-activity-6742307924338597888-xdc9](https://linkedin.com/posts/mets-ignited-australia-ltd_queensland-based-vayeron-steps-onto-the-world-activity-6742307924338597888-xdc9)

[linkedin.com/posts/mets-ignited-australia-ltd\\_accelerating-commercialisation-funding-offers-activity-6736502408605708288-JMKm](https://linkedin.com/posts/mets-ignited-australia-ltd_accelerating-commercialisation-funding-offers-activity-6736502408605708288-JMKm)

[linkedin.com/posts/mets-ignited-australia-ltd\\_sentient-wins-3m-in-contracts-for-vr-tech-activity-6735348407306608640-40tr](https://linkedin.com/posts/mets-ignited-australia-ltd_sentient-wins-3m-in-contracts-for-vr-tech-activity-6735348407306608640-40tr)

[linkedin.com/posts/mets-ignited-australia-ltd\\_dingo-and-newmont-join-forces-to-create-a-activity-6734663194750554112-QEO3](https://linkedin.com/posts/mets-ignited-australia-ltd_dingo-and-newmont-join-forces-to-create-a-activity-6734663194750554112-QEO3)

DISER initiative promotions – MMI, MMS, Supply Chain Resilience CRC Applications, 5G, M2M, Defence supply chain funding, Critical Minerals, Export Hubs, RMIT panel, manufacturing grants, improved payment terms for SMEs, Data 61, Industry Growth Centres, BGA grants, Austrade export updates, COVID support packages.

### Event Promotion

- QME Virtual Seminar Series
- QMA Awards
- ATC – National Final and Awards
- WA Mining Virtual Conference
- IMARC Online
- Robotics and Automation in Mining Conference
- 2nd Digital Mines 2021
- RIN Awards 2021
- Austmine 2021
- PeruMIN Hub
- Integrated Strategic Planning for the Mining Industry course
- WA Data Science Innovation Hub/Halliburton – Data Science Upskilling Bootcamp
- WIMARQ IWD event
- Split Spaces/RIN – Mine Pitch
- Bowen Basin Mining Club Awards
- 2020 Energy and Mining Premier's Award
- 2020 Core Innovation Hub Hot 30 Awards
- Austmine 2020 National METS Survey
- CSIRO – Net Zero Emission challenge - [linkedin.com/posts/mets-ignited-australia-ltd\\_innovate-to-grow-net-zero-emissions-mining-activity-6808271612794691584-B7z7](https://linkedin.com/posts/mets-ignited-australia-ltd_innovate-to-grow-net-zero-emissions-mining-activity-6808271612794691584-B7z7)
- Uni of Melbourne – STEP UP program - [https://www.linkedin.com/posts/mets-ignited-australia-ltd\\_university-of-melbourne-step-up-program-activity-6786163593466408960-J5P\\_](https://www.linkedin.com/posts/mets-ignited-australia-ltd_university-of-melbourne-step-up-program-activity-6786163593466408960-J5P_)

### Other Media

- [metsigned.org/local-mets-companies-urged-to-apply-for-made-in-queensland-grants/](https://metsigned.org/local-mets-companies-urged-to-apply-for-made-in-queensland-grants/)
- [metsigned.org/funding-now-available-for-resources-technology-and-critical-minerals-processing-projects/](https://metsigned.org/funding-now-available-for-resources-technology-and-critical-minerals-processing-projects/)
- [metsigned.org/funding-now-available-for-space-technologies/](https://metsigned.org/funding-now-available-for-space-technologies/)



# Appendix

## Name of the Growth Centre

The name of the Growth Centre is METS Ignited Australia Ltd, ABN 54 607 894 511.

## Growth Centre Members

At 30 June the 2021 METS Ignited Australia Ltd. (hereinafter referred to as the 'organisation') the Members are:

Name of Member	ABN and/or ACN (where applicable)	Organisation Type	Member Contact Details	Role and contribution/s of Member
Orica	98 008 624 691	METS	GPO Box 4311 Melbourne Victoria 3001	Major Australian METS MNC
AMIRA	60 176 687 975	Research	Level 2, 271 William Street, Melbourne VIC 3000	Organisation consisting of minerals companies and suppliers which develops, brokers and facilitates collaborative research
Russell Mineral Equipment	20 010 708 406	METS (SME)	141/143 Russell St, Toowoomba QLD 4350	Australian METS SME Multinational
Whittle Consulting	71 086 470 457	METS (SME)	Suite 8, 660 Canterbury Road Surrey Hills, Victoria 3127	Australian METS SME Multinational
Gekko Systems	77 064 618 293	METS (SME)	321 Learmonth Road Ballarat, Victoria 3350	Australian METS SME

There were no changes to the Members during the year ended June 2021.

There were no calls for Member or other Participant contributions during the reporting period.



*Developing a  
Workforce for the Future*





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