ASX ANNOUNCEMENT

20 JULY 2026

CRITICAL RESOURCES APPOINTS LIQUID COOLING SPECIALIST AS TECHNICAL ADVISER

Critical Resources appoints a thermal engineering specialist as Technical Adviser, strengthening the technical capability behind its licensed thermal management technology — an extension of the Company's critical minerals and battery technology strategy.

- **Technical Adviser engagement:** Eric Martinez Gurrea, a liquid cooling specialist with more than 14 years mechanical and thermal engineering experience, specialising in cooling systems for artificial intelligence (**AI**) and high-performance computing (**HPC**) data centres, has been engaged as Technical Adviser to Critical Resources.

- **Sector expertise:** Mr Martinez Gurrea brings direct-to-chip and immersion cooling experience across hyperscale data centre environments, product ownership of immersion cooling at Submer Technologies, and holds the data centre cooling technical lead role in an industry working group guiding water and energy efficiencies for the New South Wales and Victorian governments to inform future policy and regulation.

- **Exclusive worldwide rights:** The Company holds an exclusive worldwide licence over a two-phase spray cooling technology portfolio — four technology disclosures, including one granted US patent as announced 21 May 2026.

- **Chiller-free by design:** approximately 30% of data centre energy is spent on cooling. The licensed two-phase technology is designed to operate at ambient temperature without refrigeration chiller plant, and without water at the electronics level — targeting the two largest operating constraints on data centre growth: energy costs and water consumption.

- **Two-phase cooling:** The thermal management technology sprays an electrically non-conductive (dielectric) fluid directly onto heat-generating areas, including CPU/GPU units, where it boils on contact to extract heat (two-phase) before condensing and recirculating in a sealed loop — designed to operate without the operating costs of refrigeration chillers.

- **Thermal management of battery infrastructure:** The licensed field covers cooling for high-density electronics, data centre infrastructure and lithium-ion batteries, which will be leveraged alongside the Company's existing solid-state battery technology program.

- **Peer-reviewed performance:** Published studies report a 25.8% reduction in total facility energy consumption and a Power Usage Effectiveness (PUE) of 1.08, compared with approximately 1.69 for conventional air-cooled systems (Applied Energy, 2022[1] and Energy, 2023[2]).

Critical Resources Limited ('**Critical Resources**' or the '**Company**', **ASX:CRR**) advises the appointment of Mr Eric Martinez Gurrea as Technical Adviser to support the development of the Company's licensed thermal management technology program. The Technical Adviser appointment follows the Company's 21 May 2026 announcement of the completion of its exclusive worldwide licence over a portfolio of two-phase cooling

technologies for lithium-ion batteries, Central Processing Units (**CPU**) and Graphics Processing Units (**GPU**) within high-density electronics and data centre infrastructure. The appointment forms part of the Company's strengthened technical capability as it advances the evaluation and development of the licensed technology portfolio.

ABOUT THE TECHNICAL ADVISER

Mr Martinez Gurrea is a mechanical and thermal engineer with more than 14 years' experience leading engineering teams across data centre, energy and heavy infrastructure programs, including six years in Artificial Intelligence (**AI**), High-Performance Computing (**HPC**) and mission-critical data centre cooling. He has worked across the full thermal chain, spanning direct-to-chip, single-phase immersion and hybrid cooling architectures, including the product owner and designer of the flagship SmartPod immersion cooling line at the global immersion cooling pioneer, Submer Technologies (Spain). Through his own consulting practice he has delivered Cooling Distribution Units (**CDUs**) and thermal solutions for leading global hyperscale operators across the Asia-Pacific region.

Mr Martinez Gurrea is currently the data centre cooling technical lead of a university-led industry working group, advising on cooling architecture and thermal performance to create water and energy efficiency guidance for government departments in New South Wales and Victoria (Australia), informing future sector regulation. Eric holds a Masters of Science in Mechanical Engineering, together with an MBA and a Masters of Global Project Management.

As Technical Adviser, Mr Martinez Gurrea will provide technical input to the Company's two-phase cooling technology program, including engineering review, thermal and system-level guidance, and support for the Company's evaluation and development program. His engagement includes standard terms and conditions and intellectual property arrangements consistent with the Company's exclusive licence position.

ABOUT TWO-PHASE SPRAY COOLING

The rapid scale-up of AI and high-performance computing is driving a step-change in the amount of heat data centres must remove. Modern GPUs and AI accelerators concentrate far more power into a smaller area than previous generations with the amount of power of the server racks housing these advanced processors rising quickly — moving beyond the range that conventional air cooling can practically manage.

It is estimated that roughly 30%-40% of data centre energy[1] is spent on cooling, and next-generation AI racks are projected to reach power densities an order of magnitude above today's, even as operators raise coolant temperatures to reduce cooling energy and lower PUE, leaving air cooling less margin to remove that heat.

At the same time, data centre operators face intensifying pressure on: energy consumption and water use. In many markets, particularly hot and water-stressed regions, due to the availability of grid capacity and water is becoming a concerns by many governments on where and how quickly new data-centre capacity can be built.

Cooling sits at the centre of both constraints. Conventional data centre cooling relies on energy-intensive refrigeration and chiller plant and, in many designs, significant volumes of water used for evaporative heat rejection. Together these are the two largest levers on a facility's energy efficiency, measured as Power Usage Effectiveness (**PUE**), and its water efficiency, measured as Water Usage Effectiveness (**WUE**). Reducing the energy and water spent on cooling is therefore one of the most important challenges facing the future growth of the sector.

The Company's license of two-phase cooling portfolio extends beyond processors: it covers data centre cooling for CPUs, GPUs, chips and lithium-ion batteries within the server and other power infrastructure. Lithium-ion battery systems provide backup power and stabilises power supply in most data centres, and their performance, cycle life and safety are also governed by operating temperature — placing battery thermal management within the same licensed field as chip cooling, and alongside the Company's existing solid-state battery technology program.

The licensed portfolio addresses the cooling challenge with a two-phase spray cooling approach that removes heat at its source. A dielectric fluid — electrically non-conductive and commercially available — is sprayed directly onto the surface of heat-generating components such as GPUs and CPUs. The fluid evaporates on contact (**two-phase**), and the vapour is captured in a sealed enclosure, condensed back to liquid using near-ambient-temperature fluid, and recirculated in a closed loop. The system is designed to operate with ambient-temperature fluid and without a refrigeration or mechanical chiller.

The advantage of the two-phase approach lies in the physics of liquid boiling. When a fluid changes from liquid to vapour it absorbs a large quantity of heat as latent heat of vaporisation — far more than a coolant can carry through a simple rise in temperature (**Figure 1**). Delivering that boiling directly at the chip surface allows very high heat fluxes to be removed while holding chip temperatures stable, and allows heat to be rejected without mechanical refrigeration. In modern computing, chips are not just getting more powerful; they are getting smaller, creating a massive concentration of heat. Because the coolant is dielectric and contained within a sealed loop, cooling takes place at the electronics without water at the chip level.

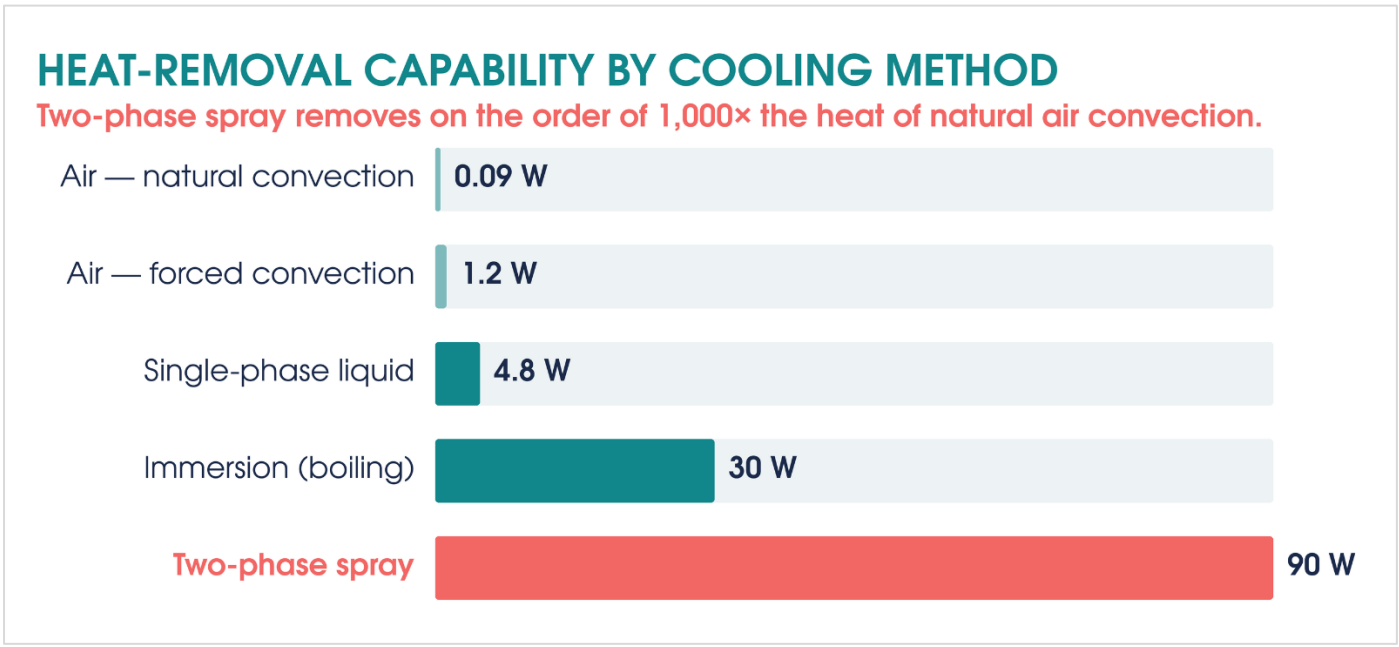

Figure 1 – Heat-removal capability by cooling method — illustrative heat removal from a single chip surface, calculated as $Q = h \cdot A \cdot \Delta T$, where h is the heat-transfer coefficient, A = 1 cm² and ΔT = 30°C, using a reference dielectric fluid. Values shown are the upper bound of the heat-transfer coefficient range reported for each method, from $h \approx 30$ W/m²K for natural air convection to $h \approx 30{,}000$ W/m²K for two-phase spray. Peer-reviewed method (*Applied Energy*, 2022[1]; *Energy*, 2023[2]). Per-surface capability calculation — not a measured rack-level result.

The combination of chiller-free operation, no water at the electronics level, and the ability to run in high-ambient-temperature environments using commercially available, standard-rack-compatible hardware — targets precisely the constraints expected to shape data centre growth over the coming decade: escalating chip power density, the rising cost and scarcity of grid electricity, and limited water availability. The approach is expected to offer its greatest advantage in hot, power-constrained and water-stressed markets, where the cost, energy use and physical footprint of conventional cooling are highest.

The licensed technologies are supported by peer-reviewed publications in *Applied Energy* (2022)[1] and *Energy* (2023)[2]. Performance reported in those laboratory-scale studies includes a 7°C reduction in chip temperature at full-load performance, alongside the facility energy and PUE results summarised above. The Company's development program is directed at validating and scaling this performance, with independent rack-scale demonstration a key objective of the program.

WHY CRITICAL RESOURCES

Critical Resources is a critical minerals and battery technology company, and thermal management is a common thread across that strategy. Data centre construction is one of the largest infrastructure build-outs underway globally, and cooling is among its most significant costs, in addition to energy and water constraints. The Company's interest in the licensed portfolio reflects that need: an opportunity to develop a differentiated, chiller-free cooling technology through a capital-light, licensing-led model, rather than by building and funding manufacturing capacity. That pathway is built around independent validation and partnership — the engagement of technical advisers such as Mr Martinez Gurrea, and prospective collaboration with research institutions, engineering partners, data centre operators and equipment vendors as the technology progresses toward rack-scale demonstration.

The Company's focus remain the development of critical minerals and battery programs — lithium resources at the Mavis Lake Lithium Project in Ontario, Canada, and solid-state battery development — with the licensed thermal management technology progressed as a complementary, capital-light extension of that work. Heat is a primary determinant of performance, cycle life and safety in next-generation batteries and in high-density computing alike, and both programs are advanced through the same model of university-based research, exclusive licensing and staged, evidence-gated development. Each program is being progressed independently and on its own technical merits.

NEXT STEPS

The appointment of Mr Martinez Gurrea is part of strengthening the Company's technical team and advisory capability as it progresses the structured evaluation of the licensed two-phase technology portfolio. The program is at an early stage and the Company's approach remains capital-light and milestone-gated, with each stage of development gated by independent technical and commercial validation.

> **Critical Resources Managing Director, Tim Wither, commented:** '*Bringing Eric on board provides the Company with access to genuine, hands-on thermal engineering expertise as we build out our technology program. Eric has spent his career at the practical end of thermal engineering, and the last six years developing liquid cooling for AI and high-performance computing, and that experience will help us pressure-test the technology and plan its path to real-world rack-scale validation outside the laboratory. Our approach remains capital-light and evidence-led, and we look forward to sharing more as our programs evolve.*'

APPOINTMENT TERMS

The Company has entered into an Advisory Services Agreement with InnoFabrics Pty Ltd, of which Mr Martinez Gurrea is a Director, under which technical advisory services are provided on a consultancy basis for a monthly retainer. The agreement may be terminated by either party on customary notice. No securities are being issued in connection with the appointment. Mr Martinez Gurrea is not a Director or related party of the Company.

This announcement has been approved for release by the Board of Directors of Critical Resources.

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ABOUT CRITICAL RESOURCES LIMITED

Critical Resources Limited (ASX:CRR) is an Australian mining and technology company focused on the discovery and development of critical metals and next generation technologies essential to a sustainable future. The Company holds a diversified portfolio including the Mavis Lake Lithium Project in Ontario, Canada, the Halls Peak Base Metals Project in New South Wales, and a growing gold portfolio in New Zealand.

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FORWARD LOOKING STATEMENTS
This announcement may contain certain forward-looking statements and projections. This announcement also contains forward-looking statements regarding technology development, commercial licencing, pilot deployment, and integration of the licensed cooling portfolio with CRR's battery programs. These statements are subject to technology, development, regulatory, and commercial risks and actual outcomes may differ materially from those described. Statements regarding CRR's plans with respect to its mineral properties and programs are forward-looking statements. Such forward-looking statements/projections are estimates for discussion purposes only and should not be relied upon. Forward-looking statements/projections are inherently uncertain and may therefore differ materially from results ultimately achieved. There can be no assurance that CRR's plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that CRR will be able to confirm the presence of additional mineral resources, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of CRR's mineral properties. Critical Resources Limited does not make any representations and provides no warranties concerning the accuracy of the projections and disclaims any obligation to update or revise any forward-looking statements/projections based on new information, future events or otherwise, except to the extent required by applicable laws. While the information contained in this report has been prepared in good faith, neither Critical Resources Limited nor any of its directors, officers, agents, employees or advisors give any representation or warranty, express or implied, as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this announcement.

REFERENCES

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2. Liu, P., Kandasamy, R., Ho, J.Y., Wong, T.N., Toh, K.C. (2023). Dynamic performance analysis and thermal modelling of a novel two-phase spray cooled rack system for data center cooling. *Energy*, 269, 126835. https://doi.org/10.1016/j.energy.2023.126835