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Clean TeQ, Universal Alloy Corp and Deakin University Collaborate to Develop Aluminium-Scandium Alloys for Aerospace

Clean TeQ Holdings Limited (**ASX: CLQ**) is pleased to announce that it has entered into an alliance with Universal Alloy Corporation and Deakin University's Institute for Frontier Materials to investigate and promote the use of scandium in current and new aluminium alloys for aerospace components.

Universal Alloy Corporation (UAC), headquartered in USA, is a global supplier of extruded alloy aerospace components with a vertically integrated manufacturing process incorporating casting, extrusion, machining, surface treatment, kitting, and assembly.



Universal Alloy's production facilities in Canton, Georgia USA

Recognised as one of Australia's leading materials research organisations, Deakin University's Institute for Frontier Materials (IFM) focuses on innovation and development in materials science and engineering, with the aim of commercialising new, more cost-effective manufacturing technologies.



Deakin University's IFM Facilities in Waurn Ponds, Victoria, Australia

The collaboration alliance is focused on developing the next generation of lightweighting solutions for the commercial aerospace industry. The program of works will include casting and functional testing of a range of aluminium-scandium alloys, followed by commercial-scale production runs of extruded aerospace parts. A critical objective is to identify the optimum scandium content to allow rapid and broad-based adoption of aluminium-scandium alloy components in lighter, more fuel-efficient commercial aircraft. Deakin and UAC have previously collaborated on other alloy projects. Work will be



carried out at Deakin's world-class research facilities in Waurn Ponds, Victoria and UAC's production facilities in Canton, Georgia.

Participation in the alliance is one of a number of routes through which Clean TeQ is seeking to promote the wider use of scandium by the aerospace industry as an aluminium alloying element. UAC is a highly respected and well established supplier of extrusions to the global aerospace industry, so is well placed to partner with Clean TeQ to promote scandium aluminium alloys to those end users.

Clean TeQ Metals General Manager, John Carr, commented: "The beneficial effects of scandium in aluminium alloys are well known: scandium provides outstanding strength, ductility, heat stability and corrosion-resistance. However, these benefits must be provided at affordable cost to pave the way for wide-scale adoption of aluminium-scandium alloys in commercial aerospace. Collaborating with UAC and Deakin is a significant step forward in demonstrating the substantial added value of aluminium-scandium alloys in aerospace applications. UAC has unique understanding of the end users' requirements while Deakin's expertise is invaluable in identifying optimal metal compositions to meet those requirements."

UAC's R&D Director, Victor Dangerfield, commented: "We've been interested in scandium for a long time, however, there has never been a reliable and affordable source of scandium raw materials at the scale we need. When a functional supply chain for scandium raw materials is established through the development of the Syerston Project, UAC wants to be ready to supply the commercial aerospace sector with a range of lightweighting solutions that aluminium-scandium alloys are likely to offer."

Deakin University Metallurgist, Dr Thomas Dorin, commented: "The Institute for Frontier Materials has an extensive array of hot processing equipment including Australia's largest research extrusion press, as well as extensive advanced atomic-scale characterisation instruments. IFM's range of experimental apparatus and research skill sets provides the ideal environment for the successful development of the next generation of aeronautic aluminium-scandium alloys."

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About Clean TeQ Holdings Limited (ASX: CLQ) – Based in Melbourne, Clean TeQ, using its proprietary Clean-iX[®] continuous ion exchange technology, is a leader in metal recovery and industrial water treatment. Clean TeQ owns the Syerston Scandium Project, located in New South Wales. The Syerston Project, globally one of the largest and highest grade scandium deposits, is expected to be the world's first dedicated scandium mine.

For more information about Clean TeQ please visit the Company's website at <u>www.cleanteq.com</u>.

About Deakin University's Institute for Frontier Materials (IFM) – Based in Waurn Ponds, the IFM houses the largest materials research facilities in the country and has a strong history of successful completion of large industry projects. For more information about the IFM please visit <u>www.deakin.edu.au/research/ifm</u>, or contact Andrew Rau, Industry Engagement & Commercialisation Manager on +61 3 5227 1129.



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Australian Securities Exchange & Media Announcement Clean TeQ Holdings Limited (ASX: CLQ)



About Universal Alloy Corporation (UAC) – Universal Alloy Corporation is a global leader in the manufacture of aerospace products supplying hard alloy aluminum extrusions and other vertically integrated products and services to aerospace companies around the world. UAC has manufacturing facilities in Canton, Georgia; Anaheim, California; Dumbravita, Romania and is a company of Montana Tech Components AG.



For more information on UAC please visit <u>www.universalalloy.com</u>

This release may contain forward-looking statements. The actual results could differ materially from a conclusion, forecast or projection in the forward-looking information. Certain material factors or assumptions were applied in drawing a conclusion or making a forecast or projection as reflected in the forward-looking information.