

# **Technology Metals Research, LLC Awarded \$1.2M US Department of Defense Project for the Evaluation of New Processes and Sources for the US Rare Earth Supply Chain**

June 4, 2014 (Source: PR Newswire) – A team led by Technology Metals Research, LLC (TMR) has been awarded \$1.2M in funding from the US Army Research Laboratory (ARL), part of the US Department of Defense (DOD), via a subaward agreement with Worcester Polytechnic Institute.

Photo – <http://photos.prnewswire.com/prnh/20140604/94374>

The project, involving a dozen companies and research institutions in the United States, Canada and Australia, will focus on the development of the key components for a domestic rare-earth supply chain, for heavy and other critical rare-earth elements (REEs).

REEs are vital ingredients in many high-tech components used in defense, industrial and green-energy applications. In recent years the REE sector has been dominated by China, which provides approximately 90% of global supply. The heavy REEs dysprosium and yttrium were recently mandated for inclusion in the DOD's National Defense Stockpile, despite not presently being produced in the USA, from US-based sources.

Project partners include Innovation Metals Corp. (IMC) and researchers at Argonne National Laboratory, the University of Illinois at Chicago, the University of South Australia and the ARL itself. A number of 'stealth-mode' companies and

researchers with promising new technologies will also participate in the program.

“As well as validating IMC’s process-flow diagrams for the bulk solvent extraction of heavy and critical REEs,” said Gareth Hatch, co-founder of TMR, President of IMC and the Principal Investigator for the 12-month program, “this award from the ARL will allow the team to evaluate new process technologies that have the potential to revolutionize the speed and efficiency of REE extraction and separation. These are exciting, materials-science-based approaches that have not been seen by the rare-earth sector before.”

In addition to process development and validation, TMR will work with leading REE geologists and mineralogists to characterize promising sources of critical REEs in the continental United States, beyond those currently being commercialized. The company will also look at the development and validation of computer simulation tools, for the accurate modeling and rapid optimization of existing and new REE separation processes.

“We’re very interested in the possibilities that the TMR-led project will bring to the rare-earth supply chain,” commented Dan McGroarty, President of the Washington, D.C.-based American Resources Policy Network. “The program has the potential to advance the development of a robust domestic production capability for critical REEs that is ultimately accessible to the DOD, the defense supply chain and beyond. The program activities constitute a unique, vertical approach – across every point on the supply chain from the supply to demand-side, from extraction through separation to end-users – addressing the issue of U.S. dependence on foreign-controlled entities for critical REE processing and production.”

“Private capital has made extraordinary investments in the rare-earth supply chain over the past few years,” added Jeff Green, Executive Director of the Strategic Materials Advisory

Council (SMAC), “but absolutely critical gaps in the US supply chain remain – gaps that would seriously undermine the defense industrial base and essential civilian programs during a peacetime supply disruption or contingency scenario.” Mr. Green continued, “The fact that the ARL is pursuing this project with industry leaders like TMR shows exactly how serious they are about this issue. It is a most welcome first step in re-shoring the current state-of-the-art while fostering the next generation of rare-earth innovators in the United States. The SMAC is proud of the efforts by Council Member Dr. Hatch and applauds the Army and the DOD for its leadership.”

In addition to coordinating the existing program activities, TMR remains open to looking at additional processes and to collaborations with other groups, which could contribute to the overall objectives of the project.

### **About Technology Metals Research, LLC**

Technology Metals Research, LLC (TMR) is an independent market-intelligence and analysis firm, focused on rare earths and other critical and strategic materials. TMR provides research management, due-diligence assistance, and other advisory services to public and private companies, institutional investors, government agencies and other market-intelligence firms.

### **Forward-Looking Statements**

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