

SCY Announces Joint Program With ECK Industries To Demonstrate Impacts Of Cerium And Scandium Additions In Aluminum Alloys

written by Raj Shah | February 27, 2020



February 27, 2020 ([Source](#)) – Scandium International Mining Corp. (TSX:SCY) (“Scandium International” or the “Company”) is pleased to announce it has signed a Program Agreement with Eck Industries (“ECK”) located in

Manitowoc, Wisconsin, to pursue novel alloy development of a combined cerium-scandium aluminum alloy, based on previous work done independently by the companies in this area.

The companies intend to pursue alloy refinements in both wrought and cast alloy applications, specifically targeting property improvements related to strength, corrosion resistance, and heat-working tolerance, principally in A5000 series alloys.

PROGRAM HIGHLIGHTS:

- Joint economic and technical support to alloy design,
- Joint sharing of previous data, and new data produced from this program,
- Samples production for customer trials, either as cast products, or wrought sample shapes for various potential customers and alloy manufacturers,

- **Initial high value application expected to be in marine applications, and**
- **Program work is protected by existing patent applications filed by ECK,**

DISCUSSION

Eck Industries has been working both independently and with the Critical Materials Institute, a Department of Energy Program that brings together four national laboratories, seven universities and ten industrial partners to remove impediments to the commercialization of clean energy technologies to develop A5000 series aluminum alloys with cerium additions, predominantly for shape-casting applications, reflecting Eck's core manufacturing business. This work is covered by patents and patent applications, and has demonstrated novel alloy compositions that are superior in terms of heat-working tolerance, well beyond typical aluminum castable alloy performance. Key results have been previously publicly disclosed by Eck.

SCY has been working for a number of years to develop A5000 series aluminum alloys with scandium additions, predominantly for wrought sheet and extrusion applications, to support use in aerospace, automotive and marine applications.

SCY and ECK have recognized, after comparing data, that cerium and scandium both improve similar properties in A5000 series (magnesium family) alloys, but they do so in different ways and to differing degrees, and they are typically additive in combination. This has led the two companies to recognize that the target property improvements we were each seeking could potentially be reached through combinations of these additives and combination of our respective R&D programs. The companies initially formed an association through a letter of intent in 2018, founded on interest in scandium for cast alloy

applications. This current program represents a maturation of the thinking around how well cerium and scandium can be combined to both improve strength and improve properties beyond thresholds that effectively limit aluminum alloy use today. These improvements are now recognized as potentially applicable in all forms of aluminum alloy use; cast, wrought, and extrusion.

George Putnam, CEO of Scandium International Mining Corp. commented:

“This is a truly exciting program because it investigates the synergistic impact of two winning alloy additives for aluminium, and shows every promise of breaking boundaries in important areas. These alloys won’t make challenging production demands on alloy producers, and we see numerous high volume existing applications where they can represent a better, property-driven, alloy choice.”

David Weiss, VP Engineering & Technology, Eck Industries Inc. commented:

“We have been pursuing scandium as an alloy additive almost as long as we have been pursuing cerium. Cerium has proven to be a really novel change in the casting space, and scandium represents a powerful enhancement to that change. This program brings us an expanded understanding of scandium behavior, but also more tightly aligns us with a group that has scandium market understanding that extends well outside our traditional casting environment.”

ABOUT ECK INDUSTRIES INC.

Eck Industries Inc. was founded in 1948 (as Eck Foundries) to service orders from Harley-Davidson, Wisconsin Motors, West Bend Outboard and Johnson Motors. Today Eck Industries operates a

210,000 sq. ft. facility with over 250 employees, and 110 customers, shape-casting commercial aircraft parts, automotive and trucking cast parts, military drivetrain casings, marine propulsion system castings, and military aerospace components.

Eck is known in the casting industry as an innovator. They employ over seven different molding techniques, including gravity feed, precision low pressure systems, permanent mold casting, and direct squeeze casting.

ABOUT SCANDIUM INTERNATIONAL MINING CORP.

The Company is focused on developing its Nyngan Scandium Project, located in NSW, Australia, into the world's first scandium-only producing mine. The project owned by our 100% held Australian subsidiary, EMC Metals Australia Pty Limited, has received all key approvals, including a mining lease, necessary to proceed with project construction.

The Company filed a NI 43-101 technical report in May 2016, titled **"Feasibility Study – Nyngan Scandium Project"**. That feasibility study delivered an expanded scandium resource, a first reserve figure, and an estimated 33.1% IRR on the project, supported by extensive metallurgical test work and an independent, 10-year global marketing outlook for scandium demand.

Willem Duyvesteyn, MSc, AIME, CIM, a Director and CTO of the Company, is a qualified person for the purposes of NI 43-101 and has reviewed and approved the technical content of this press release on behalf of the Company.

This press release contains forward-looking statements about the Company and its business. Forward looking statements are statements that are not historical facts and include, but are not limited to statements regarding any future development of

the project. The forward-looking statements in this press release are subject to various risks, uncertainties and other factors that could cause the Company's actual results or achievements to differ materially from those expressed in or implied by forward looking statements. These risks, uncertainties and other factors include, without limitation: risks related to uncertainty in the demand for scandium, the possibility that results of test work will not fulfill expectations, or not realize the perceived market utilization and potential of scandium sources that may be developed for sale by the Company. Forward-looking statements are based on the beliefs, opinions and expectations of the Company's management at the time they are made, and other than as required by applicable securities laws, the Company does not assume any obligation to update its forward-looking statements if those beliefs, opinions or expectations, or other circumstances, should change.