

JCI, Aqua Metals ink \$10.6M battery recycling deal

Feb 9, 2017 | 04:47 PM | Brad MacAulay

PITTSBURGH — Johnson Controls International Plc (JCI) has entered a strategic partnership with Aqua Metals Inc. that includes licensing the company's electrochemical battery recycling technology.

Terms of the deal were not disclosed, but under the agreement, JCI will be the first company to license Aqua Metals' AquaRefining technology. JCI also will supply Aqua Metal with batteries to recycle as part of a closed-loop network, purchase lead produced by the company and acquire nearly 5 percent of its outstanding shares, which equates to \$10.6 million, a company spokeswoman confirmed to AMM.

"The licensing agreement essentially takes the AquaRefining modules and puts them into JCI's existing operations, as well as greenfield builds. The agreement includes the physical equipment, know-how, test support and warranty," Steve Cotton, chief commercial officer of Aqua Metals, told AMM in an interview.

"The deal is multifaceted and is a highly credible vote of confidence from JCI, the industry leader. With JCI as our first official customer, we're anchored with a partner sophisticated enough to help us launch our licensing expertise the right way," he said.

"We've been working with Aqua Metals for quite some time," Joseph Walicki, vice president and president of JCI's Power Solutions division, told AMM in a separate interview. "Johnson Controls has a set of values that are beyond just making a quality battery. We take a lot of pride in the fact that we are a benchmark, and we operate to a high set of standards around the world, and this is a technology that fits into that set of values."

Aqua Metals Inc. last year produced the first-ever AquaRefined material at its flagship commercial lead-refining facility in McCarran, Nev., and has sent samples to several domestic battery manufacturing companies for evaluation. AquaRefining uses an entirely reusable water-based technology that produces ingots of more than 99.99-percent purity from recycled batteries

Building the blueprint

Executives from Aqua Metals and JCI said details on the licensing agreement are still being determined, with both companies working together to build a blueprint for the number of modules to be licensed to JCI, as well as for the locations and timing of installations.

Alameda, Calif.-based Aqua Metals' module-production facility is capable of manufacturing up to 160 AquaRefining modules per year.

Due to the size and scope of the agreement, the pair expects to cement the details by the end of 2017.

“We have an agreement to blueprint over the next year-and-a-half to determine how we might deploy Aqua Metals' technology at our facilities,” Thomas Parmenter, vice president of global procurement for JCI's Power Solutions division, said.

Cotton said it will take the remainder of the year to get all of the specifications together, noting that the licensing deal is an acceleration of what company had previously announced.

However, the agreement is more extensive than just licensing technology, the executives said.

“Our agreement is not just the licensing. Essentially, as much capacity as we can build with our own facilities, JCI will be able to provide the feedstock and buy the offtake from our business,” Cotton said.

“Aqua Metals is complementary to what we do today, and our initial agreement is around tolling, providing batteries for feedstock and buying additional lead for our automotive applications,” Parmenter said.

Aqua Metals' AquaRefinery has a production capacity of 80 tonnes of lead per day.

“From a tolling standpoint, Aqua Metals represents less than 5 percent of our tolling needs. From a lead-purchasing standpoint, we will buy the majority of the lead from their facilities. Both will grow over time as Aqua Metals expands its U.S. footprint,” Parmenter said.

“JCI will basically take everything we can make, but we have the ability to make lead for other nonautomotive-type applications, including stationary battery makers who really want a higher-quality lead,” Cotton said.

The lead will be sold to JCI at the market price on the London Metal Exchange, plus a premium; tolling will also be at a market rate determined to be competitive by the companies at the time of tolling, according to Parmenter.

While JCI gains first-mover advantage by partnering with Aqua Metals, Cotton made it clear that the agreement does not restrict Aqua Metals from selling AquaRefined lead to other parties.

Aqua Metals will keep its technology available to other companies looking for the high-purity AquaRefined lead, such as those producing stationary batteries for use in data centers and grid scale storage or for advanced automotive purposes, according to Cotton.

“We've been really clear with everyone throughout this entire process. We want AquaRefining to be available to everyone throughout the world, and Aqua Metals and JCI are both on board with that,” he noted.

Likewise, JCI will continue to investigate any other available “clean” battery recycling and lead-refining systems, Walicki said.

“We will be exploring to see if there is a way to further leverage or deploy the technology after we see how effective it is,” Walicki said. “We’re excited about the relationship, and there are a lot of other clean technologies that we’re looking into.”

Milwaukee-based JCI’s Power Solutions division benefited from stronger battery demand in the company’s fiscal first quarter.

“It was another decent quarter for the Power Solutions division. We’re really pleased with progress. We’re seeing good growth around all regions throughout the world,” Walicki said.

This article is copyright of American Metal Market. For more information on the distribution of this article or on American Metal Market subscriptions, please contact Karen Ross at kross@amm.com.

See www.amm.com for the latest industry news, take a free trial at <http://www.amm.com/SignUp.html?LS=AFA814> or call the subscription hotline on 877-638-2856 or 412-765-3581.

Connect with AMM! We’re on [Twitter](#), [Facebook](#), [LinkedIn](#) and [Google+](#) and download the free apps for [iPad](#) and [iPhone](#).