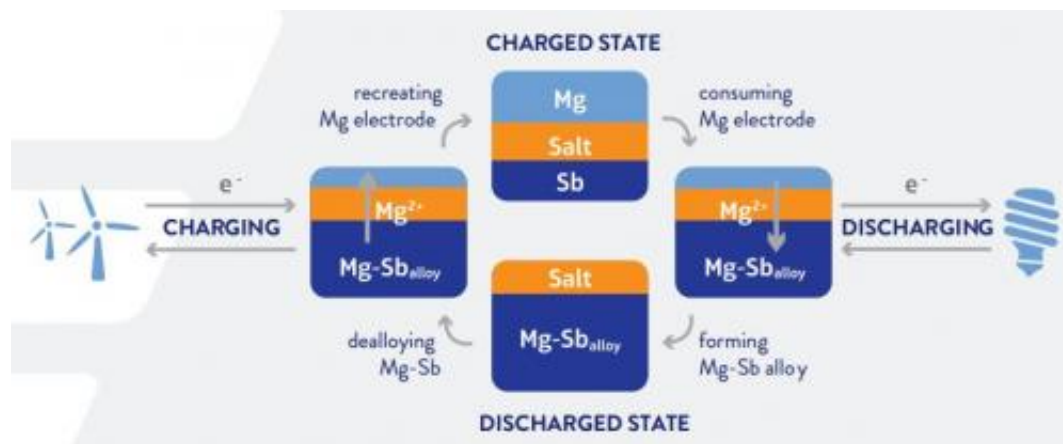


Ambri liquid metal battery: Prototype deployment set for 2014

November 10 2013, by Nancy Owano



Credit: Ambri

(Phys.org) —November is a milestone month for Massachusetts Institute of Technology (MIT) spinoff company Ambri, where a ribbon-cutting ceremony in Marlborough, Massachusetts, on November 7 marked its new production facility. Ambri is targeting its liquid metal battery technology for use in the electricity grid. The company believes they have an electricity storage solution that will change the way electric grids are operated worldwide. Ambri's liquid metal battery technology breaks away from other storage options; each cell consists of three self-separating liquid layers, two metals and a salt, that float on top of each other based on density differences and immiscibility, said Ambri. The system operates at elevated temperature maintained by self-heating

during charging and discharging.

Cells are stacked into refrigerator-sized modules, placed into a 40-foot shipping container rated at 500 kW and 2 MWh storage capacity. For more [energy](#), more systems can be deployed together side by side. The new production facility brings the team closer to their ultimate goals. "Here, we will demonstrate that Ambri's Liquid Metal Batteries can be produced at comparatively low capital cost, and make large-scale [energy storage](#) a practical reality," said Phil Giudice, CEO of Ambri.

Ambri's new factory will produce the company's first prototype systems for deployment in 2014 and 2015. Ambri said it plans to commission its first full-scale manufacturing facility in 2015. Already, plans are under way for Ambri's prototype systems produced in Marlborough to be installed at the Joint Base Cape Cod, Ambri's system is to enable the base to reduce electricity costs but at the same time improve power quality and grid resiliency. Ambri also plans to deploy an energy storage system in Hawaii next year. Consumers in Hawaii experience high electricity prices with a system based primarily on diesel fuel. Wind and solar resources paired with viable energy storage represent a brighter renewable energy outlook. "As Hawaii transitions from an oil-based electricity system to one fueled by 70 percent clean energy, the Energy Excelsator is committed to funding the world's best innovation needed to get us there," said Dawn Lippert, senior manager of the Hawaii Energy Excelsator.

Ambri said it uses inexpensive materials, which keeps costs down; the team noted that the simplicity of the system also accommodates manufacturing at low costs. With the large cell design, fewer wires and connections are needed, reducing, they said, the number of potential points of failure.

The company was founded In 2010, with the goal of commercializing

the liquid metal [battery technology](#) which had its development roots at MIT in the lab of Professor Donald Sadoway.

More information:

www.ambri.com/storage/documents/2013-Brochure.pdf

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