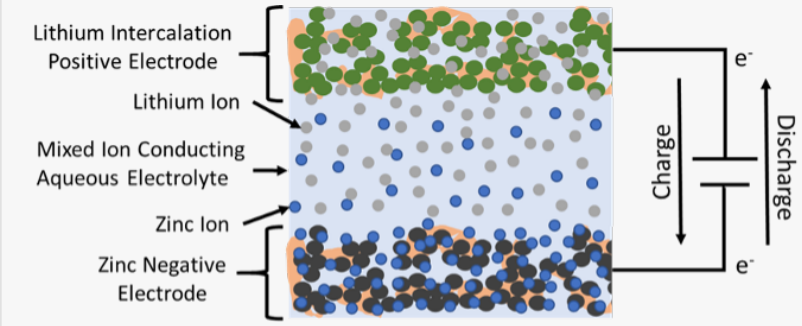
Æsir Technologies Awarded Phase 2 funding from National Science Foundation for groundbreaking Lithium-Zinc Ion Battery

Æsir Technologies Inc. has been awarded Small Business Innovation Research (SBIR) grant for $848k to develop their revolutionary Lithium-Zinc Ion battery



Aqueous Lithium and Zinc Ion Batteries for Stationary Energy Storage Applications

JOPLIN, MO, USA, May 17, 2022 /EINPresswire.com/ -- Æsir Technologies Inc. has been awarded a Phase II National Science Foundation (NSF) Small Business Innovation Research (SBIR) grant for $848k to develop their revolutionary Lithium-Zinc Ion (Li-Zn) battery. The Li-Zn chemistry is cobalt and nickel free and utilizes an aqueous electrolyte, which makes this a safe and inexpensive alternative to traditional Lithium-Ion batteries and provides a viable alternative to Lead-Acid and most Lithium-Ion battery applications.

> These 24-48V aqueous batteries are nickel and cobalt free and will allow for the greatest combination of high voltage, low cost, and safety"
>
> *Dr. Adam Weisenstein*

The Phase II work supported by the NSF under Cooperative Agreement No. 2051693 will build upon the improvements in life and power achieved during the Phase I effort and culminate in prototype cells for a 24-48V stationary energy storage battery design. This design targets stationary energy storage at residential, commercial, and industrial scales, all of which are continuing to grow at a significant pace. Current practical offerings condense to a choice between Lithium-Ion and Lead-Acid based batteries. Lead-Acid has the lowest initial and installation cost but falls short due to its high Levelized Cost of Energy. Lithium-Ion meets the functional metrics and low Levelized Cost of Energy but has higher initial cost and is plagued with safety issues. Æsir Technologies Li-Zn battery will meet all the market-driven metrics for a stationary storage system that existing Lithium or Lead based batteries cannot. Li-Zn will offer lower initial costs than traditional Lithium-Ion batteries and projects to provide the lowest Levelized Cost of Energy of any available battery chemistry. While stationary energy storage is the first targeted market for the Li-Zn chemistry, other future

applications could include marine, trucking, industrial, military, medical, and automotive.

The Li-Zn battery will provide at least 2x the cycle life, 2x the energy density, and 3x the specific energy of Lead-Acid with a non-toxic, non-flammable chemistry. Although Li-Zn is technically a Lithium-Ion battery, it will not only outperform Lead-Acid but inherently does not have the fire and safety concerns of traditional Lithium-Ion. Unlike existing Lithium-Ion batteries, Li-Zn does not have thermal runaway issues and can operate over a wider temperature range, due to the aqueous electrolyte.

According to Dr. Adam Weisenstein, Chief Technology Officer at Æsir Technologies and Principal Investigator of the Phase II SBIR, "We proved that our groundbreaking Li-Zn chemistry is capable of long cycle life and high power during our Phase I work, and we now look forward to further optimizing the chemistry and building prototypes to verify the performance in commercial size batteries in a real environment during Phase II. These 24-48V aqueous batteries are nickel and cobalt free and will allow for the greatest combination of high voltage, low cost, and safety"

About Æsir Technologies, Inc.
Æsir Technologies, Inc. specializes in the development and commercialization of next-generation Zinc-based battery technologies that utilize sustainable, non-toxic materials that can be safely and easily recycled. Æsir Technologies, Inc. was incorporated in 2011 with a research and development facility in Bozeman, Montana and a low-rate initial production facility headquartered in Joplin, Missouri. For more information, visit: www.aesirtec.com

About the NSF's Small Business Programs
America's Seed Fund powered by NSF awards $200 million annually to startups and small businesses, transforming scientific discovery into products and services with commercial and societal impact. Startups working across almost all areas of science and technology can receive up to $2 million to support research and development (R&D), helping de-risk technology for commercial success. America's Seed Fund is congressionally mandated through the Small Business Innovation Research (SBIR) program. The NSF is an independent federal agency with a budget of about $8.5 billion that supports fundamental research and education across all fields of science and engineering.

Kirk Plautz
Æsir Technologies Inc.
+1 813-267-5669
email us here
Visit us on social media:
Facebook
LinkedIn

try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.