

Ridgetop Introduces CellSage

A Modeling Tool for Diagnostic and Predictive Evaluations of Battery Life and Mission Readiness

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Ridgetop Group, Inc. ("Ridgetop") announced a new battery analysis and software simulation tool called CellSage. CellSage supports the modeling of battery performance when subjected to variations in temperature, loads, aging, and different physical environments. This analysis capability is useful in developing advanced diagnostic and prognostic applications where knowledge and optimization of battery capacity and performance relative to intended duty cycles is critical.

Designers of battery-powered systems, especially Lithium-Ion based cells, now have the ability to conduct rigorous "what if" types of analysis on various battery configurations. Batteries can present highly non-linear aging behavior, where battery capacity slowly declines over repetitive operational cycles. Extreme temperatures and high states of charge accelerate these aging effects. In multi-cell battery packs uneven aging caused by hot-spots must be characterized for safe and effective operation over prolonged usage. CellSage addresses these challenges by providing a robust platform to investigate wide ranges of conditions and the consequential dependence of battery aging pathways over time.

Ridgetop's software tool is based on work licensed from the Department of Energy's (DOE) Idaho National Laboratory (INL) under Dr. Kevin Gering. According to Dr. Gering, "We are glad to see Ridgetop develop a tool that will provide answers to difficult battery characterization and application questions." Our work with self-powered robotic and energy storage firms have allowed us to fine-tune the algorithms in the CellSage product.

Doug Goodman, Chief Engineer of Ridgetop added "This is another significant roll-out of useful and effective tools that extend Ridgetop's product line for battery management systems. I am very pleased with INL's cooperation in creating this solution."

CellSage is currently offered through evaluation trials and annual software license agreements. Ridgetop's support package consists of the CellSage software platform, user guide documentation, as well as remote training and application support.

For more information, please visit Ridgetop's website at <u>www.RidgetopGroup.com</u> or contact Ridgetop Group directly.

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