

Quality Assessment of HEV's Batteries Thermal Management

Dr. Andreas Vlahinos

Advanced Engineering Solutions

www.aes.nu

Co-authors:

Johannes Heydenreich (PhilonNet Engineering Solutions)

Stavroula Stefanatou (PhilonNet Engineering Solutions)

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Abstract:

Successful organizations realize that probabilistic design techniques have enormous positive impact on time-to-quality. Time to market often becomes irrelevant when the total costs of poor quality factor into the analysis. Design must directly consider the noise factors of variation, recognizing that not all bad outcomes happen at the same time. Variation in loading, dimensions and manufacturing must be measured, and factored in to design tradeoffs.

This presentation summarizes current modeling processes and tradeoffs to automatically create optimum robust designs. An example of probabilistic design and optimization from the thermal management of Hybrid Electric Vehicles' (HEV) batteries will be presented. Highlights include a reusable workflow process, as well as the challenges and recommendations for successful Design for Lean Six-Sigma (DfLSS) implementation.