Engineering Integrity Society

WEBINAR:
Understanding and improving the performance, durability and reliability of Electric Vehicles
20 July 2021 1-2pm

Engineers are mobilizing at a rapid pace to meet the demands and challenges presented by the shift to more widely adopted battery powered devices and transportation. Prenscia has partnered with customers and researchers to deliver insights into the mechanical and durability aspects, electrical and signal processing aspects, as well as statistical and reliability aspects of these highly advanced vehicles. These offer a more in-depth understanding of how the range and overall efficiency of the vehicle can be improved, and how the risk exposure from relentless vehicle innovation can be managed.

The webinar covers 3 aspects of innovation:
Mechanical and durability aspects
– Fatigue design of battery packs
– Accelerated vibration testing of battery packs
– Fatigue analysis of light-weight vehicle structures
Electrical and signal processing aspects
– Electric motor efficiency and loss mapping
– Power measurement and analysis
– Real-world battery usage and target customer analysis
Statistical and reliability aspects
– Battery life analysis
– Battery performance degradation modelling and analysis
– FMEA (Failure Mode and Effects Analysis) for the reliable implementation of new EV technologies

Presenter:
Andrew Halfpenny, HBK

Andrew heads technology and innovation for HBK's nCode product brand. He holds a PhD in Mechanical Engineering and a Masters' degree in Civil and Structural Engineering. Over the years he has introduced many new technologies to the automotive, aerospace and power generation sectors. These include: customer usage monitoring, target customer analysis, proving ground correlation, accelerated laboratory testing and mathematical simulation. His most recent work has been developing methods to measure and improve the performance, durability and reliability of electric vehicles.

Andrew holds a European patent for the 'Damage Monitoring Tag', and developed the new vibration methods used for qualifying UK military helicopters. He has worked in consultancy with "blue chip" customers across the UK, Europe, Americas and the Far East, and has written publications on Fatigue, Structural Health Monitoring and Digital Signal Processing.

Andrew is a founding member of the NAFEMS PSE (Professional Simulation Engineer) Certification scheme, and sits on the NAFEMS committee for Dynamic Testing. He is also a visiting lecturer on structural dynamics and structural health monitoring with the University of Sheffield.

FREE TO ATTEND

To register email info@e-i-s.org.uk

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