

Special Issue

Systems Engineering and Scalable Architecture Design of Electric Vehicles

Message from the Guest Editor

Scalable vehicle architectures have been a common practice in automotive engineering. They allow modularity, flexibility and interoperability. Such architectures decrease costs, promote reliability, and allow faster development iterations between vehicle variants. Using this paradigm, one would have thought that we would have arrived at standardized (i) 400V or 800V battery architectures, (ii) battery management systems, (iii) power electronics and motor controllers, (iv) high-torque-density electric motors, etc. All the systems would be sized according to the application, while the architecture and interfaces would be fixed within and across automotive manufacturers. Somehow, every new electric vehicle platform appears to be a new prototype in terms of powertrain technology. We hypothesize that applying systems engineering principles and standardization to the architecture and interfaces could maximize the benefits of EVs, while addressing challenges related to range, vehicle weight, and overall safety. Systems engineering means that there is traceability between targets and objectives, system design and requirements, and verification and validation.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

The *World Electric Vehicle Journal* is the official journal of the World Electric Vehicle Association (WEVA) and its members the European Association for Electromobility (AVERE), the Electric Drive Transportation Association (EDTA), and the Electric Vehicle Association of Asia Pacific (EVAAP). Since its foundation in 2007, the journal has aimed to provide a publishing platform for the academic and industrial world to share the latest developments and knowledge about electric vehicles. If you are developing Electric, Plug-in Hybrid, Hybrid Electric, or Fuel Cell Vehicles, we cordially invite you to consider us as the place for you to publish your latest results and innovations.

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