IEEE Journal of Emerging and Selected Topics in Industrial Electronics

Special Section on:
Efficient, High Density and Reliable Enabling Technologies for Transportation Electrification: Phase II

Transportation electrification is a need and Enabling Technologies play an important and critical role in their success. With the rapid demand and development of more electric vehicles, there is a critical need to assess and prepare for the impact of these technologies on transportation and development as a whole. However, developments in transportation also create new challenges for enabling technologies, infrastructure, impact on public and grid. Driven by the demand to reduce the cost and enhance the performance of on-the-move electrical energy technologies for transportation electrification, such as more electric aircraft, electric vehicles, rail, the industry is moving towards applications with more power electronics. High power density and reliable converters are critical enablers for the transportation industry to unlock significant improvements in system weight, operation life and energy consumption. This special issue aims to bring together researchers and practitioners from industry, laboratories, academia and government to present the challenges and opportunities related to transportation electrification systems.

We encourage all researchers working in this area to submit papers to this Special Section. Topics of interest include, but are not limited to:

- ✔ Compact power converters for on-board charging and vehicle traction applications including multiport converters
- ✔ Hybrid energy systems for increasing operational-time and reduction in energy storage
- ✔ Efficient and fault tolerant converters for less redundancy and compact systems for all kinds of EVs including fuel cell vehicles
- ✔ Rail and e-Bus transportation system, automated local rapid transit and people movers
- ✔ Street transportation system: e-bikes, small cabin compact passenger and delivery vehicles
- ✔ Electric motor and their efficient control for e-mobility systems
- ✔ Off-board EV charging infrastructures: Plug-in and wireless including fast charging, dynamic charging, and off-grid charging
- ✔ Automated and unmanned vehicles
- ✔ Electrification of Heavy-duty and Off-road Vehicles including Sea and Air transportation
- ✔ EV architectures for hybrid electric, more electric, pure Electric and Electric range Extenders
- ✔ The Impact of EV fast charging systems on utility and distribution transformers
- ✔ Integration of alternative energy sources in EV charging and EV participation in future smart grid (vehicle-to-grid system)

Manuscript Preparation and Submission

Check carefully the style of the journal described in the guidelines "Information for Authors" in the IEEE- IES website:http://www.ieee-ies.org/pubs/jestie. Please submit your manuscript in electronic form through: https://mc.manuscriptcentral.com/jestie-ieee/. **Note that manuscriptcentral will soon be available**.

On the submitting page, in pop-up menu of manuscript type, select: "**SS on Enabling Technologies for Transportation Electrification**", then upload all your manuscript files following the instructions.

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