EV In-Motion Wireless Power Transfer
Industry Connections Activity Initiation Document (ICAID)
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1. Contact

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2. Participation and Voting Model

Entity-based

3. Purpose

3.1. Motivation and Goal

This IEEE Standards Association Industry Connection Activity is related to create the fundamental elements for the standardization of EV in-motion wireless power transfer which relates both to the roadside (primary) and the vehicle-side (secondary) such as coil-design, coil-integration, power electronics system architecture, communication system architecture, smart-grid integration and supported power levels.

3.2. Related Work

Existing standardization activities are focused on stationary wireless charging, with the most significant standardization contributions via SAE J2954 and SAE J2931/6. Further relevant EV wireless charging standards developments are ISO 19363/IEC 61980 and ISO/IEC 15118-7. An important aspect for in-motion wireless power transfer is roadway electrification. There is no known standardization activity which addresses roadway electrification in combination with vehicle electrification.

3.3. Previously Published Material

3.4. **Potential Markets Served**

Considering the development of the transportation sector towards higher automation and electrification levels to support the growing urbanization in the world, urban communities will benefit substantially from in-motion wireless charging. Furthermore also zero-emission long-distance travel can be improved via dedicated segments of electrified roads which eliminate downtime.

4. **Estimated Timeframe**

This activity will coincide with the creation of the ITIC Mobility Services Testbed Alliance which will allow to support the suggested activity.

**Expected Completion Date:** 04/2019

5. **Proposed Deliverables**

The following deliverables are proposed:

> Whitepaper on how in-motion wireless charging could be utilized in a smart city context
> Development of guidelines how an in-motion wireless power transfer testbed is designed and operated
> Development of test use cases to validate road-side and vehicle-side key components as well as vehicle-infrastructure interaction
> Recommendation of which system components require standardization

6. **Funding Requirements**

The activity will be sponsored by the ITIC Mobility Services Testbed Alliance. Any workshops or testbed/showcase events will be funded through the alliance. It is expected that the entity members will cover their own travel cost and will not require financial support.

7. **Management and Procedures**

7.1. **IEEE Sponsoring Committee**

**Has an IEEE sponsoring committee agreed to oversee this activity?: No**
7.2. **Activity Management**

This Industry Connections Activity will be self-governed by an Executive Committee and the Activity Members.

7.3. **Procedures**

A set of policies and procedures, based on the ICCom Industry Connections Entity-Based Policies and Procedures baseline, will be developed.

8. **Participants**

8.1. **Stakeholder Communities**

Information and communication companies  
Automotive OEM’s and suppliers  
Electric Utilities  
Transportation infrastructure firms  
Government agencies involved with transportation infrastructure development  
University and educational institutions performing research in in-motion wireless power transfer

8.2. **Expected Number of Participants**

It is expected that about 10-15 entities are being permanently involved in this activity after a ramp-up period of 3-6 months

8.3. **Initial Participants**

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<tr>
<th>Entity</th>
<th>Primary Contact</th>
<th>Additional Representatives</th>
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