Smart Charging and V2G Webinar Series

- **Aim:** Find out who is doing what on Electric Vehicle Charging Infrastructure.
- **Objective:** Collaborate in the development of a fit for purpose EV charging infrastructure.

- **UK Policy development (Consultation, Secondary legislation on smart charging)**
Landing Page

https://www.ncl.ac.uk/cesi/events/webinars/v2gwebinars/

- Recordings and slides
- Details for future events
Upcoming events

- Robert de Leew- ihomer and Open Charge Alliance
  Communication Protocols for Electrical Vehicle Charging - Introduction to OCPP
  Date: 12th September 2019. 16:00-17:00 UK time.
  This webinar will introduce Open Charge Point Protocol (OCPP), which is one of the most widely used open protocols to communicate with EV chargers.

- Rolf Bienert, Technical Director - OpenADR Alliance
  Communication Protocols for Electrical Vehicle Charging - Introduction to OpenADR
  Date: 2nd October 2019. 16:00-17:00 UK time.
  This webinar will introduce Open Automated Demand Response (OpenADR) standard, which is used to communicate with distributed energy resources

- Stakeholder from California
  Content TBC - California VGI roadmap; Overview of smart charging projects using open protocols
  Date TBC

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Apply and develop data science methods and tools to help in the transformation of electricity and transport infrastructure into sustainable and efficient infrastructure, while maintaining reliable operation.

Contribute to open communication protocols for vehicle grid integration.
e4Future - Large Scale Demonstrator on V2G
E4future Mission Statement

- Through large-scale deployment of 1000 V2G chargers the e4Future project aims to provide in-depth insight into:
  - Optimal use cases for using V2G fleets to offer power system services;
  - The technical factors involved in aggregating large numbers of electric vehicles and charging from/discharging to the grid;
  - The opportunities for and experience of participants choosing to take advantage of V2G technology;
  - Ensuring the privacy and security of V2G users and infrastructure;
  - Key barriers to V2G deployment.
<table>
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<th>Work Packages</th>
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<td><strong>WP1</strong> Vehicle to grid participant experience</td>
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<td><strong>WP2</strong> Understanding potential and impact of V2G to the grid</td>
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<td><strong>WP3</strong> Pilot implementation and data analysis</td>
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<td><strong>WP4</strong> Privacy and Cybersecurity</td>
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Preparation for First Install at NTCE Cranfield
The e4Future consortium is an entity that includes various partners such as Nissan, MITSUBISHI, ARVAL, and others. The diagram illustrates the flow of information and services, starting with customer and vehicle requirements. These requirements are then directed to an aggregator, represented by E.ON UK, which connects to TSO National Grid and DSO Northern Powergrid. The connections involve data links and control links, highlighting the integration of customer and vehicle data into energy management systems. The diagram also indicates trading on TSO Markets, indicating a role in energy market operations. The location of Imperial College London is highlighted, suggesting a significant role or setting for the consortium's activities.
myriam.neaimeh@newcastle.ac.uk

https://www.turing.ac.uk/research/research-projects/vehicle-grid-integration

@myriamnea
myriamneaimeh
Today’s speakers

- A Highly Efficient Control Framework for Centralized Residential Charging Coordination of Large Electric Vehicle Populations.
  Don Scoffield, Idaho National Laboratory, US

- The Adaptive Charging Network project
  Zachary Lee, Caltech, US