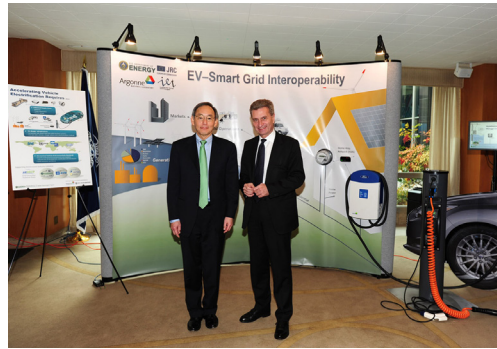# Electric Vehicle-Smart Grid Interoperability Center

Pressure to standardize electric vehicle (EV) connectivity and communications across nations has increased because global automotive manufacturers and suppliers are evaluating technical solutions and must make investment decisions to support production of future plug-in vehicles. Standardization may make it easier for consumers to adopt electric vehicles, but nations must work together to accomplish this.
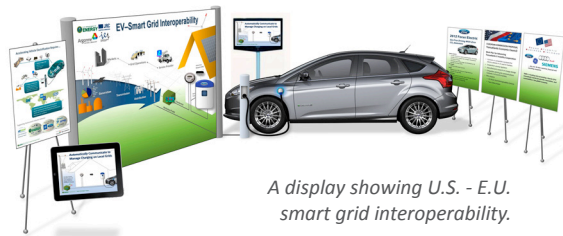
The Challenge

To create a venue where researchers can standardize the way EVs recharge at any charging station and the way EVs can communicate with the utility/grid operator to enable billing or more sophisticated interactions, such as two-way communication and load management.

U.S. Secretary Chu and EU Commissioner of Energy, Gunther Oettinger in front of the Smart Grid Display.

The Solution

The U.S. Department of Energy (DOE) and the European Commission's (EC) Joint Research Centre (JRC) announced plans to establish two Electric Vehicle-Smart Grid Interoperability Centers. As the U.S. home of a new Electric Vehicle-Smart Grid Interoperability Center, Argonne National Laboratory will play a key role in supporting global standardization activities to ensure future electric vehicles (EVs) and charging stations worldwide work together seamlessly. The European center will be housed at JRC facilities in Ispra, Italy.

A display showing U.S. - E.U. smart grid interoperability.

The Results

In addition to helping industry, efforts to harmonize standards are expected to boost consumer confidence in electric cars by paving the way for an EV infrastructure that would make recharging a battery as simple and convenient as refilling a gas tank. Global standardization will allow seamless operation of EVs across borders and service areas of different utilities.

"Working with Europe is a perfect opportunity," said Keith Hardy, a senior technical advisor at Argonne. *"We share an automobile industry. We share a supplier industry. Standardization between the U.S. and Europe to will allow a multinational company to build components here that will definitely be applicable there, and vice versa."*