Sustainable Mobility Solutions

Identity and purpose

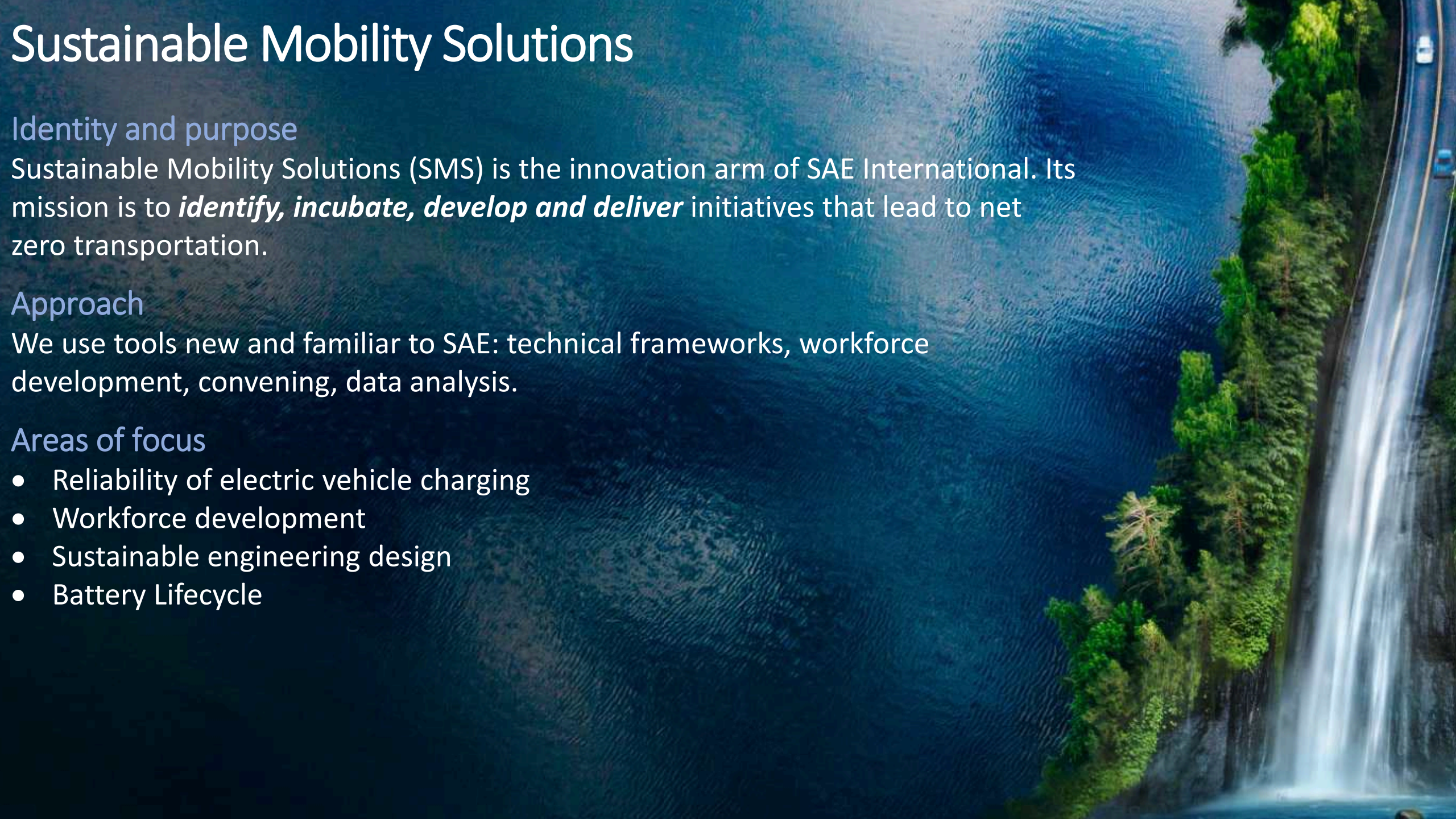
Sustainable Mobility Solutions (SMS) is the innovation arm of SAE International. Its mission is to ***identify, incubate, develop and deliver*** initiatives that lead to net zero transportation.

Approach

We use tools new and familiar to SAE: technical frameworks, workforce development, convening, data analysis.

Areas of focus

- Reliability of electric vehicle charging
- Workforce development
- Sustainable engineering design
- Battery Lifecycle



Electric Vehicle Charging Data Performance & Reporting

An All-Inclusive, Technical Review of Electric Vehicle Cha
Performance, Data Reporting, and Reliability

- A new model for technical knowledge creation and data reporting that will r
  standards development
- How Electric Vehicle Supply Equipment (EVSE), like other network connected
  manage and report their performance to deliver reliable levels of customer s
- The structure, volume, and quality of data regarding EV charging system per
- Reference system architecture that frames this report's analysis, which ident
  essential devices, platforms, and data flows within EV charging systems that
- The Charging System Performance Reporting (CSPR) interface, a conceptual
  meant to organize and facilitate the collection, processing, encoding, storage
  system performance data

Download the Free Report

AE J3271, Megawatt Charging Systems for Electric Vehicles

3271 focuses on the system level of DC high power charging; up to
500v/3000A; this work area/standard does not include AC charging.

*his DC charging system is targeted at larger battery pack vehicles that require
igher charging rates to complete the charging process in reasonable time.
ommercial vehicles typically have shorter dwell time to charge than others.*

elated DC conductive/WPT SAE standards for equivalent charging include:

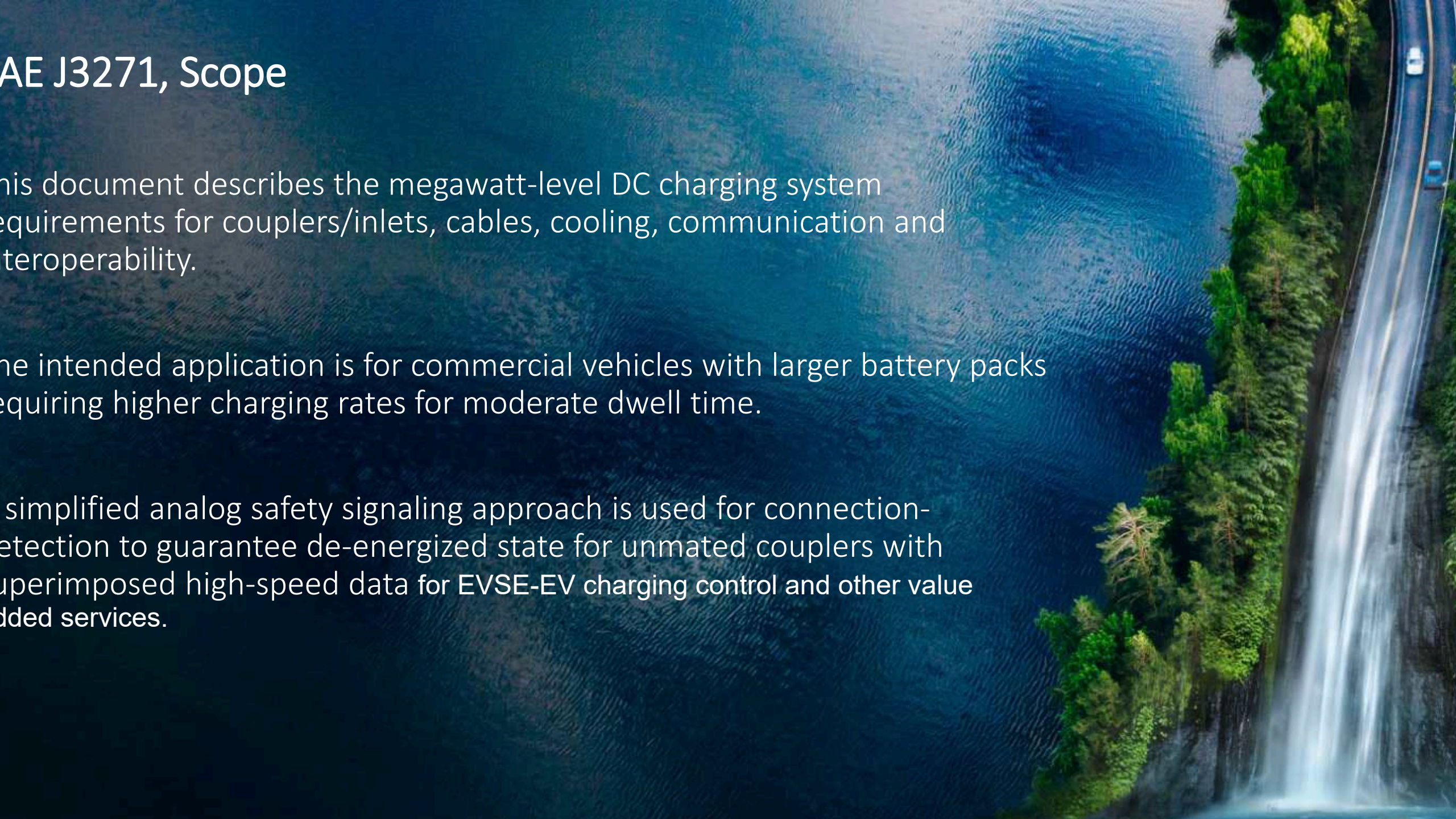
- SAE J3105(/1,2,3) mechanized systems (on route, sequenced depot settings)
- SAE J1772-CCS cord connected, multi-port stations, w/cord handling systems
- SAE J3068 208v/277/480vac cord connected; DC charging (w-w/o DC pins)
- SAE J2954/2 commercial vehicle WPT (power range WPT5-8; 60kW-590kW)

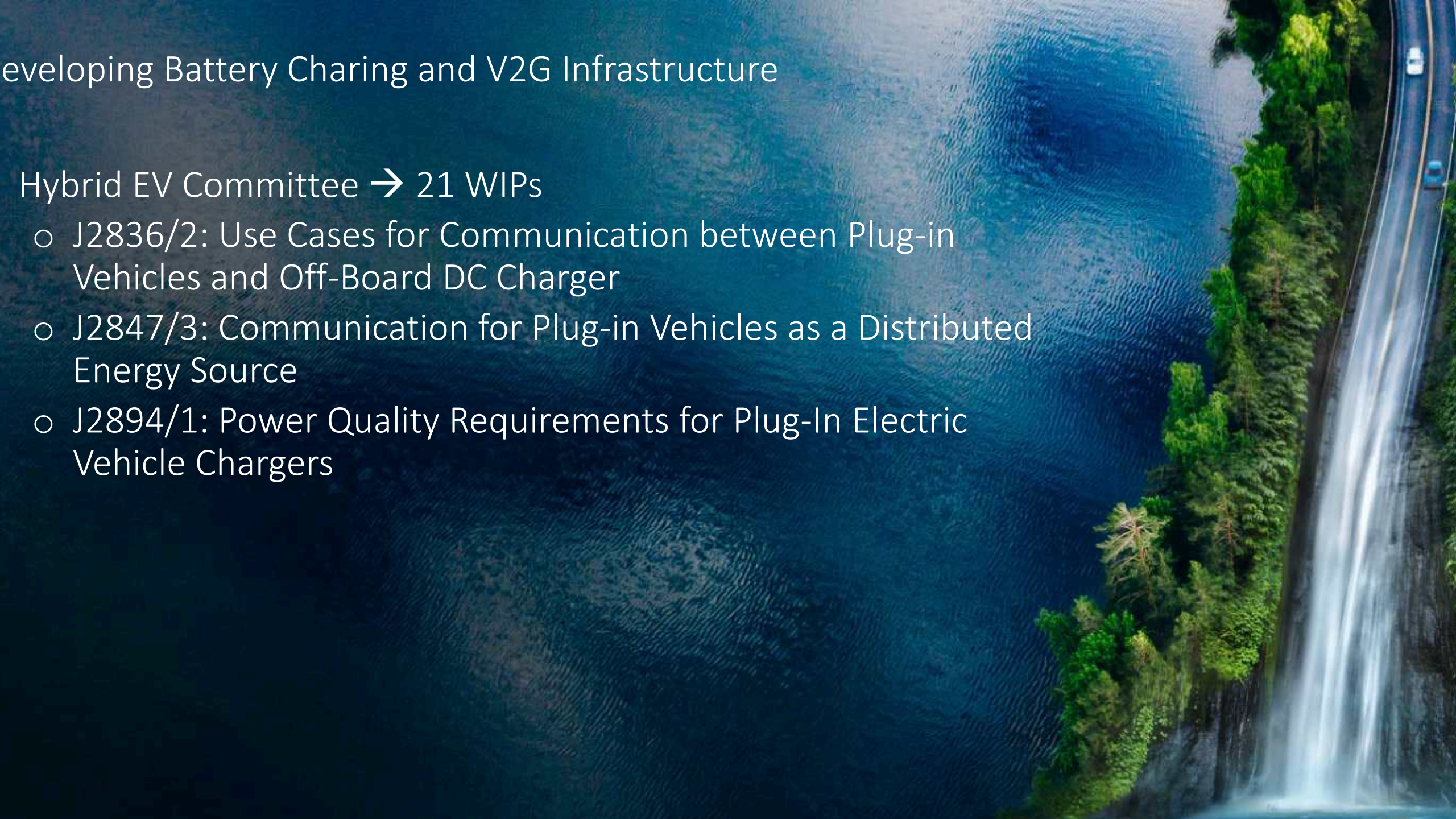
AE J3271, Scope

his document describes the megawatt-level DC charging system equirements for couplers/inlets, cables, cooling, communication and teroperability.

he intended application is for commercial vehicles with larger battery packs equiring higher charging rates for moderate dwell time.

simplified analog safety signaling approach is used for connection-etection to guarantee de-energized state for unmated couplers with uperimposed high-speed data for EVSE-EV charging control and other value dded services.





eveloping Battery Charing and V2G Infrastructure

Hybrid EV Committee → 21 WIPs

- J2836/2: Use Cases for Communication between Plug-in Vehicles and Off-Board DC Charger
- J2847/3: Communication for Plug-in Vehicles as a Distributed Energy Source
- J2894/1: Power Quality Requirements for Plug-In Electric Vehicle Chargers

roducts

Electric Vehicle Charging Data: Performance and Reporting. A technical framework for identifying, organizing and codifying EV charging performance. Developed with leading vehicle manufacturers, charge providers, government agencies. Now the basis of a National Charging Experience Consortium sponsored by U.S. national labs.

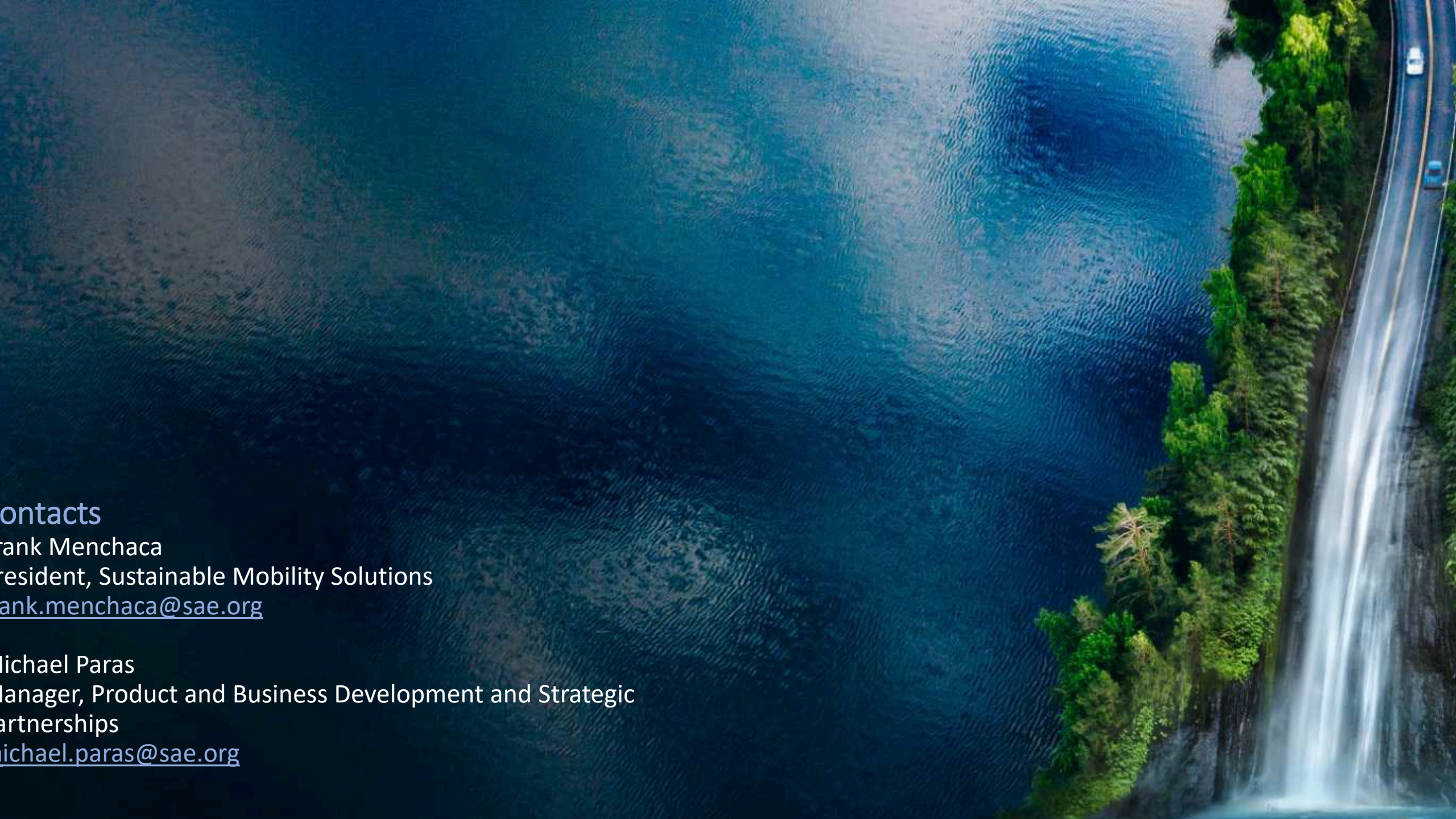
Training and certification in key topics of sustainable transportation withDekra.

a. Introduction to the Electric Vehicle Infrastructure: Standards and Regulations
b. Cybersecurity for EV Charging
c. Introduction to DC Fast Charging

Electric Vehicle Supply Equipment (EVSE) Certification. A national certification for charging station field technicians and service providers. Developed in cooperation with ChargerHelp!

The Battery Academy with EIT InnoEnergy. A comprehensive curriculum for engineers and students in battery development. 22 courses, 86 modules, 100 hours of learning.

Sustainable Engineering Design and Practice. A framework for guiding engineers in various transportation industry roles in designing products for re-use and second life. Assembled in cooperation with leading manufacturers and suppliers.



ontacts

rank Menchaca
resident, Sustainable Mobility Solutions
ank.menchaca@sae.org

lichael Paras
lanager, Product and Business Development and Strategic
artnerships
ichael.paras@sae.org