

Integration of the Electric Vehicle within the SMARTGRID

STANDARDIZATION AND COMPLIANCE

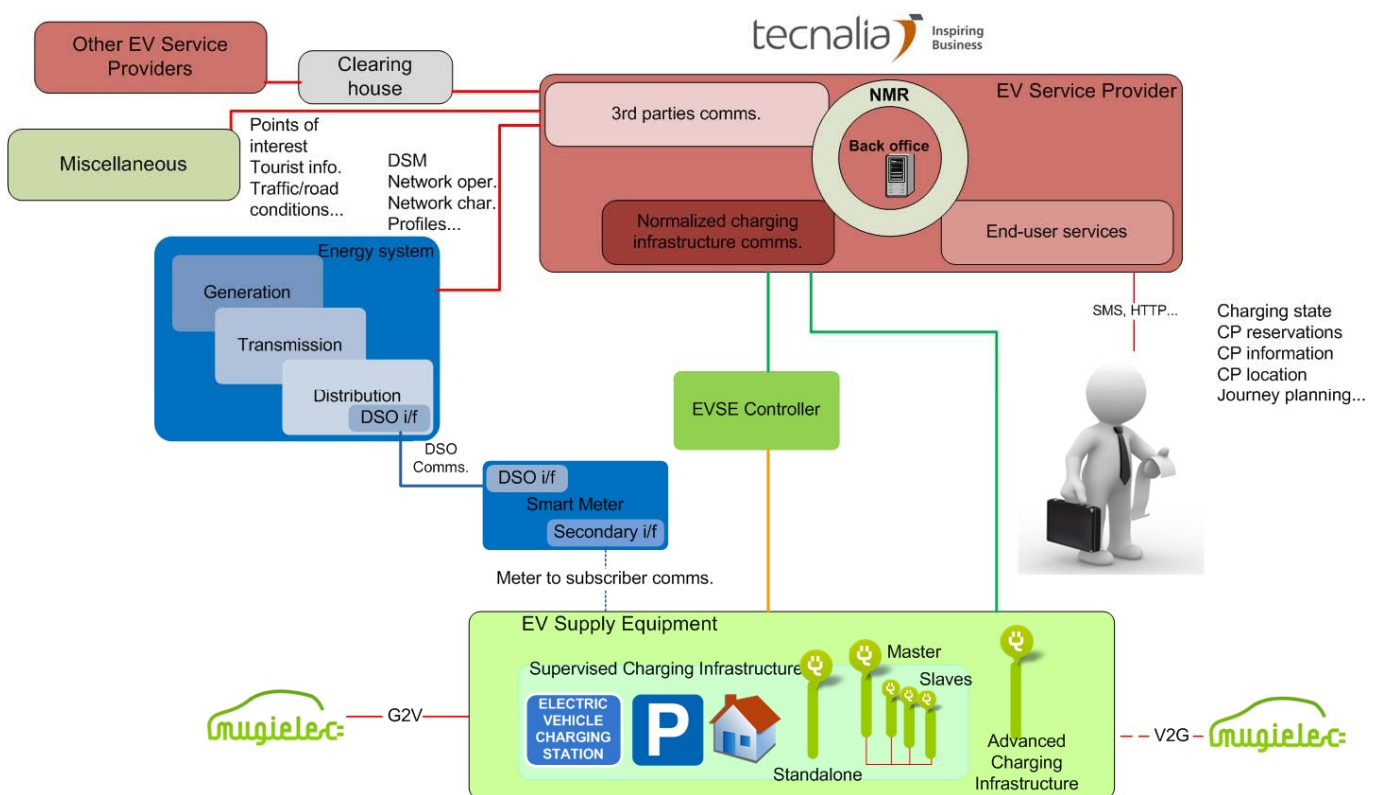
The intelligence of the different systems that constitute the infrastructure for EV charging and their interoperability have to be assessed, in order to guarantee that the intended performance is accomplished.

Considering EV deployment and technological circumstances, during the following years this task will require a large effort in standardization, agreement, infrastructure investment and technical skills in order to assess the individual and, even more, the global performance of the equipment that allow EVs to be charged.

This ambitious objective, more than convenient for a favourable EV deployment, asks for the coordinated participation of the relevant stakeholders.

TECNALIA: ASSESSMENT for COMPLIANCE

TECNALIA complements the research vocation with accredited testing capabilities to measure and assess the compliance of products to Standards and Regulation. This brings the opportunity for TECNALIA to become an active Stakeholder to offer the OEMs, the Charging Point manufacturers, the Utilities, the E-mobility Service Providers and, in general, the companies around the EV charging, the infrastructure, capability and knowledge to verify that their systems perform as desired.



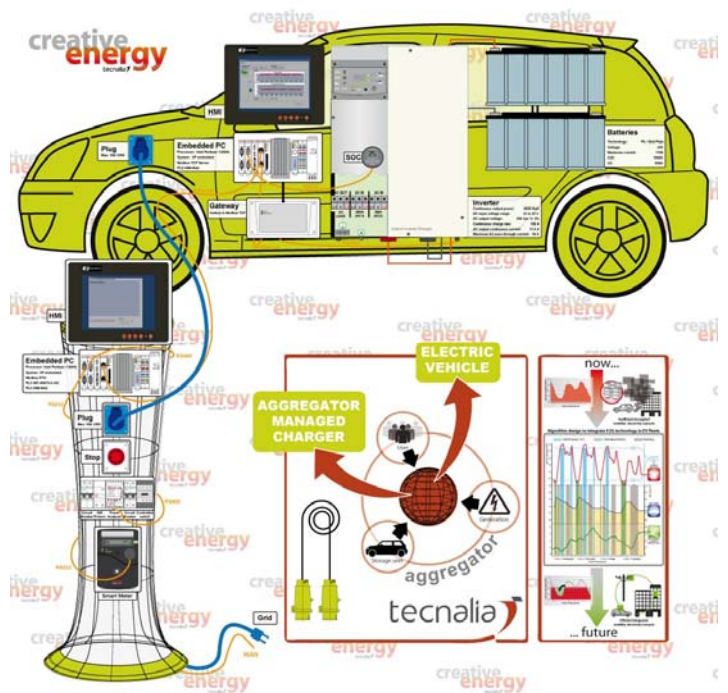
TECNALIA already offers some services for assessing compliance for EV and their charging infrastructure:

- Low Voltage and EMC Directives
- 61851: Charging Systems for EVs
- IEC 15118: EV communication interface

- EN 61439-7 Low-voltage switchgear and controlgear assemblies, also for EV.

THE INTEROPERABILITY CENTRE FOR ELECTRIC VEHICLES

During the following years the EV is meant to be one of the key players in the Smartgrid. TECNALIA, whose expertise and participation in this field has been outstanding so far, will increase its capabilities to verify that the different systems in the infrastructure for EV charging do really fulfil their performance, that the information flow and communication protocols are achieved accordingly and, even more, that the services required to facilitate EV deployment can be offered.



TECNALIA'S TECHNOLOGIES AND CAPABILITIES AROUND THE ELECTRIC VEHICLE

- EV integration within the smartgrid
 - Intelligent management, Demand response techniques, V2G,...
 - Impact assessment, improvement and simulation
- Development of communications protocols among the different actors, such as EV, EVSE, EVSP
- Business Models analysis for EV deployment
- Tele-management and securized communications and data collection systems (EVSE, EVSP, DSO,...). Embedded systems for RTU
- BMS development and test benches
- Fast charge and other advanced power-electronics-based systems
- Wireless charge: TECNALIA has developed a system based on a resonant magnetic coupling, able to charge an EV at 3.3 kW with a performance above 93%
- High Performance EV for research and development
- Advanced Platform to characterize, develop and validate mechanical and electrical components for electric vehicles, which can be combined with the High Performance EV
- Implementation of New concepts for Distributed traction (motor in the wheels)

