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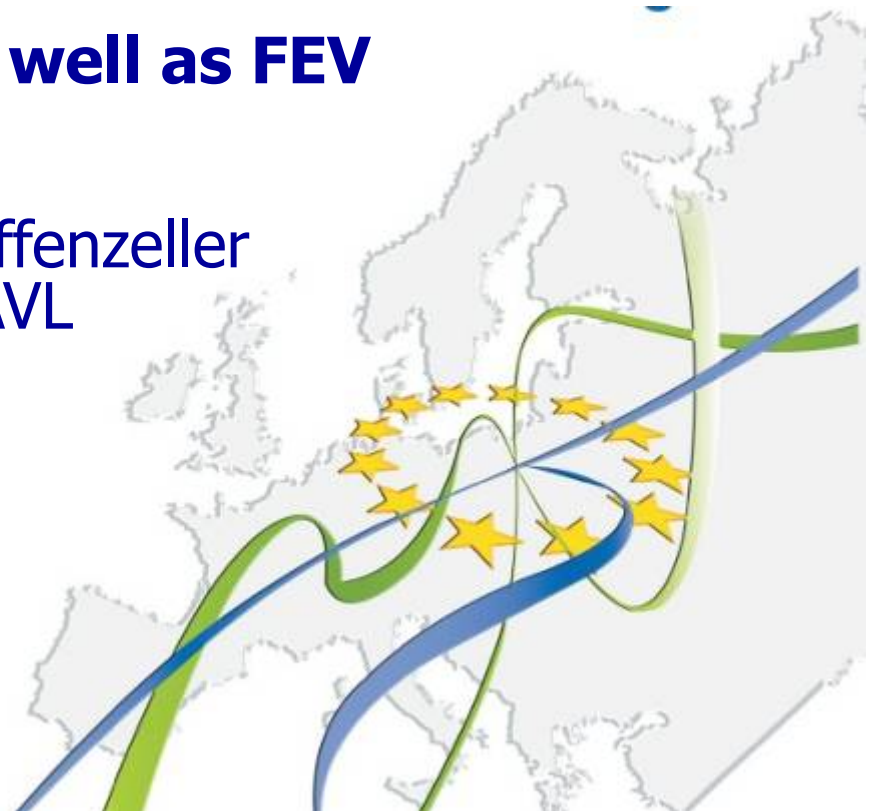
Standardisation

A Challenge for the Full Electric Vehicle

Plug-in as well as FEV

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Brussels, 11 June 2010





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Standardisation



Contents

- State of the Art - Overview
- Challenge for European Industry through Standardization



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Standardisation in Europe



- DG Enterprise gave a mandate to CEN/CENELEC to perform and establish a worldwide EC standard for plug and interfaces to the grid. Two workshops took place, the latest on 18 May 2010.
- The OEMs, supply industry and public bodies in Germany and France agreed on an e-mobility standard (2010). Standardization activities were already performed in Germany in 2001.
- Standards in administration and billing (roaming services) are created in a platform through the IP EURIDICE (EWSP = European Wide Service Platforms).
- Now it is time to speed up in Europe for standards to get leadership
- The support action ICT4FEV coordinated by VDI is also addressing this topic.



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Standardisation in USA



- Laboratory Test Procedures for EV: Electrolyte spillage and electrical shock protection (US DoT, TP-305-01, 2008)
- SAE Standard J1772 for charging cord set connecting vehicles to the grid (2010)
- Li-Ion traction battery test specification (ISO 12405-2, in work)
- Many more under development



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Standardisation in Japan



- Handling of Li-Ion batteries for driving motor vehicles and motor-driven cycles (Nov 2008)
- Protection of occupants against high voltage in EV and HEV (2007)
- Protection of occupants against high voltage in EV and HEV AFTER COLLISION (published 2007, in force 2012)
- Activities for plugs and interfaces standardisation are also existing



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Standardisation in China



- Test specification for Li-Ion traction battery packs and Systems for EV (ICS 43.140 T84)
- EV Safety Specification (ICS 43.020 T09, July 2007)



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A Challenge for European Industry through Standardization



- Standardization for interface to the grid – both with relation to power and data communication - is needed in Europe to exploit the electric vehicle to a high amplitude. This is a first step in this direction.
- Interfaces between the sub-systems in the electric vehicle are needed to optimize the efficiency in designing and engineering the variety of architectures and topologies as well as to stimulate new supply chain and market potentials, e.g. connection between the different components, etc.
- Standardized cell packaging (i.e. dimension, mechanical and electrical interfaces) in order to allow sourcing and use of cells from worldwide suppliers in European batteries



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A Challenge for European Industry through Standardization of Test Procedures for



- Battery durability
- Crash test for battery alone and – definitely - also installed in the vehicle. Particular consideration to be addressed to (hybrid) trucks and busses due to their significantly longer time of operation at highest NVH requirements.
- Security test
- Electro-mechanical stress and durability tests of electrical drivetrain components
- New Car Assessment of Safety concepts for EV's (integrated safety systems taking into account minimum vehicle weight, active and passive safety measures)