

ERESS Forum - Workshop 1

How to meet the New European Standards

Case studies – ÖBB Infrastruktur AG

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railpower box

- Settlement and Billing in 15 countries
- Over 1,200 units in 15 countries
- 25 customers all over Europe

CONVINCED COMPANIES ALL OVER EUROPE

Railway undertakings



Manufacturers of traction vehicles

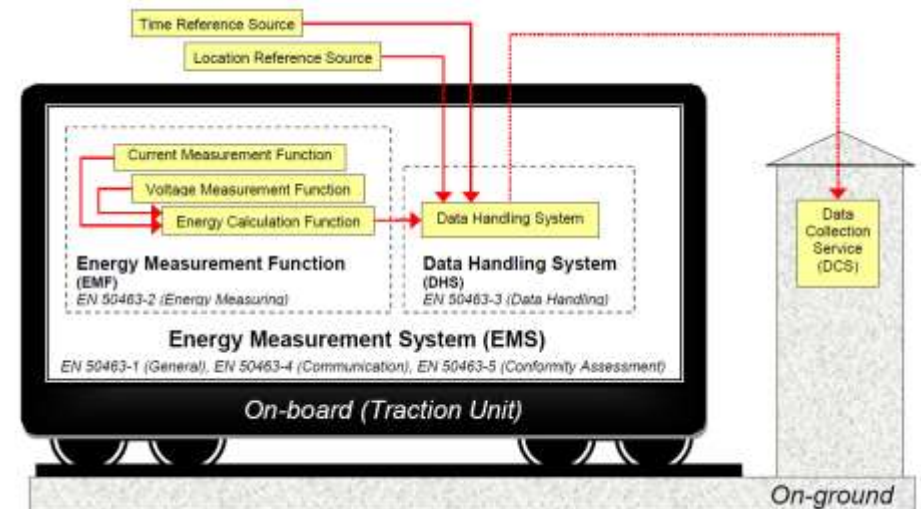
SIEMENS **STADLER** **BOMBARDIER**

Leasing provider of traction vehicles



International requirements

- **Technical Specifications Interoperability (TSI)**
 - TSI Locomotive and Passenger (LOC&PAS)
 - TSI Energy (ENE)
- **European Standards**
 - Energy metering on train vehicles EN50463
- **Standardisation**
 - UIC leaflet 930 (UTIL-TS)



Certification process

- **Base for the certification of the rail vehicle according to TSI**
 - Intermediate Statement of Verification (Level of device railpower box)
 - EC Certificate of Verification (Level of rail vehicle)
- **Certification for vehicles not requiring official approval for installations**



- **Vehicle registration according to TSI**
 - Intermediate Statement of Verification for the railpower box is provided by ÖBB
 - Submission of EC Certificate of Verification is done by the owner of the vehicle

Certification of the EMS - railpower box

- **EC Intermediate Statement Verification (ISV)** - Level of meter of the railpower box
 - Issued by a NoBo, certification test in lab
 - Certification is done on meter type level

- **Energy meter calibration** - Level of meter of the railpower box
 - Intended to show the accuracy deviation of the electricity meter
 - Issued by a certified entity (mainly producer), calibration is done for each individual meter for a period of 8 years – no need to recalibrate
 - IMs require it for vehicle registration (SBB, MAV etc.)
 - TSI certification incorporates it
 - NoBo requires only the meter ISV

Certification in whole

- **EC ISV - Level of device railpower box**
 - TSI locomotive and passenger vehicles 2011/291/EU and resolution 2012/464/EU (only relevant requirement)
 - Issued for defined energy meter types (no vehicle type is defined)
 - Provided by a NoBo
 - For the railpower box required documents: test reports, audit reports (environmental, fire safety etc), technical description, tests with prototypes.
 - Experienced certification time: 5-12 months
 - ISV for the railpower box standard since 2014
 - ISV for the railpower box mini - ongoing
- **EC ISV - Level of rail vehicle**
 - The entire measuring system including all components is certified (energy meter, sensors, cableing)
 - Made by a certification entity (vehicle manufacturer, qualified service station etc.) for one vehicle type (ex. Bombardier 186) with both AC and DC functionalities
 - ÖBB own vehicles – the responsibility is at the owner of the vehicles



Data exchange with IMs in Europe

- **Process of data exchange with IMs in Europe**
 - UIC Leaflet 930 – UTILTS/xml
 - Individuell agreement with every IMs
 - Bilateral data exchange cooperations contracts
 - in various formats and interfaces
 - xls, xml, UTILTS
 - FTP, SFTP, E-Mail, Web service

 **SBB CFF FFS**



БДЖ  **BDZ**

 **Slovenske železnice**



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