

Eress Forum 2018 Summary



This summary includes all speeches from the morning session. The conclusion from the workshops in the afternoon will be published in separate documents. If you are interested in the conclusion of workshop 1 and workshop 2 please contact jaccla@banenor.no



The future of railway energy in Italy

Gianpaolo La Paglia, Strategic Planning Direction, RFI (Rete Ferroviaria Italiana)

RFI is a distributor and trader and sells energy to the train operators. They purchase energy by Power Exchange and bilateral contracts. They still have lower grid charges (only on conventional lines). Energy consumption increased to 5,6 TWh per year (+16% in 10 year). RFI will develop its DCS compliant to EN 50463-4:2017. They will have a period with some trains equipped with meters and some having a virtual metering (based on estimation of consumption).

Martino dal Verme, Statistics and Sustainability, GSE (Gestore Servizi Energetici)

GSE is a public owned company. Its aim is to support energy efficiency and renewable energy. One third of the final energy consumption in Italy comes from transport. EU aims to conclude on 2030 energy targets during this year. The EU Council and Parliament need to get an agreement, where the Parliament wants to increase the targets proposed by the Council. The Italian national energy strategy proposes an increase of renewables in electricity consumption to 55% by 2030.



Latest non-paper from the EU Commission

Enno Wiebe, CER (Community of European Railway and Infrastructure Companies)

CER does not have a position regarding this non-paper yet. It is a draft guidance note on energy metering on-board rail vehicles and invoicing based on measured energy consumptions.

When the EU Commission asked the sector if the topic is of importance, there was no answer, neither from RU Dialogue (Train Operators) nor from PRIME (Infrastructure Managers) delegates. Due to the non-answer, the EU Commission continued its research and took this topic again at the Florence Rail Forum.

There has been a first exchange of views between stakeholders and the European Commission. Should the topic be handled on a technical or a political level?

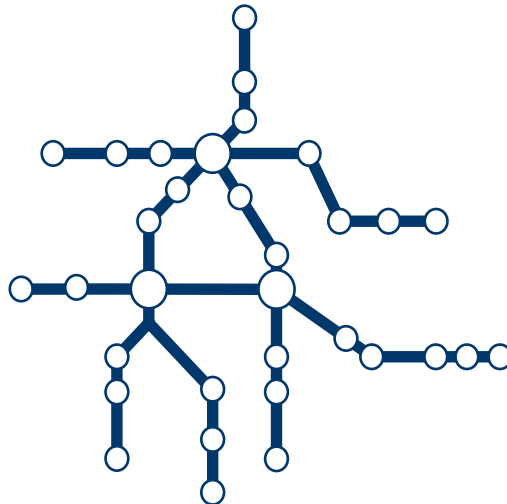
The open point regarding the communication between on-board meter and ground will be closed soon and will be part of the revision of LOC&PAS TSI and ENE TSI later this year.

The non-paper should give guidance to the sector. The paper requests to install meters on all electric traction units and also retrofit existing rolling stock.

SBB requests one European mandatory master database, more harmonisation and EVN in TAP/TAF messages.

There are some gaps and inconsistencies in the paper for some CER-members.

CER regards the topic is important and needs to be tackled. Who should be involved? What is intended timeline? Enno Wiebe proposes to have first a discussion between EIM and CER.



Erex standardisation and DCS status

Dyre Martin Gulbrandsen, Director, Eress

Infrastructure Managers and Train Operators in Europe need to start acting now in order to meet EUs deadlines. Since 2014 energy meters are mandatory on all new, renewed and upgraded rolling stock. In 2020 all member states shall have a solution for handling both exchange and settlement. In 2022 all member states shall have a DCS able to read meters in accordance with the protocol defined in EN 50463:2017.

Erex covers the complete chain, including data collection from energy meters, exchange, settlement and billing. Exchange is based on the requirements of UIC 930:2009. Eress will add a DCS (compliant with EN 50463:2017) as a part of the Erex solution. Already next winter will Erex be able to collect CEBD (billing data). Settlement is more country specific. It needs to take into account national regulation on implementation of energy and railway market. However, standardization across Europe is important, both from a system perspective, but even more from a customer perspective. Eress has since last year a new partnership model offering the possibility to join as a limited partner or a full partner. The limited partner alternative gives the possibility for an Eress partner to only use the Exchange or Settlement module of Erex system.

UIC 930 and EN 50463 updates

Bjorn Lysne, Exchange responsible, Eress

EN 50463 was first published in 2007. It only had a meter. The 2012-version included current and voltage measurement, GPS-data and data exchange to ground (general principles). The 2017-version includes an interoperable protocol for the communication from on-board to ground. This standard only deals with Energy Measurement Systems on-board and the communication to ground. The UIC 930:2009 will be updated to IRS 90930:2019. Its aim is to define better the roles and responsibilities of the actors in the railway market. This document covers the topics not handled in EN 50463. It will mostly handle on how to handle the data on ground. A stakeholder workshop is scheduled on the 6th November 2018 in Paris.

Breaking news

The Commission Regulation that revises 1301 and 1302/2014 was adopted during Eress Forum, on June 13, 2018.

This means that all countries in Europe should have a railway energy settlement system by June 2020.

Survey and trends for railway energy in Europe

Raimondo Orsini, Sustainable Development Foundation

12 Infrastructure Managers and 13 Train Operatos have replied to this survey. The installation of meters is going very fast. Finland, Spain and Switzerland are installing a lot of meters. In 2020 many countries in Europe will have more than 500 meters on-board of trains.

4 countries have all meters TSI-compliant.

Belgium, Czech Republic, France, Italy and Netherlands have the lowest percentage of traction units equipped with meters. In 2020 only France and Italy will have less than 25% equipped. In 2020 a majority of countries will have more than 75% of traction units equipped with energy meters.

Energy meters are present in all 19 countries that replied to the questionnaire. There is an increase of installed meters in all countries. 10 countries plan to cover almost 100% in 2020.

Luca Carusi announced that the amount of meters at Trenitalia will increase to nearly 50% by 2024.

Chloe Lima-Vanzeler announced that they are purchasing new rolling stock. SNCF will reach 50% of trains equipped with meters already in 2020.

58% of respondents suppose that energy prices will become more expensive in the next years.

The biggest challenge remains to have installed meters. If you want to know more about this survey, please contact orsini@susdef.it or jaccla@banenor.no.

Eress Award



Smart control for static converters, the future for rail traction

Winner: Delaram Sharifi

Electrification of railways results in faster, greener, quieter, more reliable railways.

Each transformer needs to be able to deliver the peak power of that section. Because single phase transformers create imbalance, expensive connections are needed.

Static Frequency Converters permit to create a meshed network. There is no problem with imbalance, so it is possible to connect to cheaper networks on lower voltages. Also losses will be smaller. It is possible to control better.

Optimising the electrical infrastructure

Finalist: Álvaro López

Not all regenerated energy can be reused. Low investment solutions decrease the no-load voltage or shut down some substations in off-peak hours. High investment techniques are reversible substations or energy storage. What investment is best? The candidate developed a tool to calculate the optimum for a network. This method reduces the simulation time from 9,3 months to 18,6 hours.

Speed date with Energy Metering Suppliers

Denis Battistella, Microelettrica

Micorelettrica has reduced the amount of devices, resulting in a reduced certification cost. The company has combined meter with sensors, but also meter with DHS (in this case, existing sensors can be reused). It has also a combined GSM/GPS-antenna. This helps easy retrofitting. The component certification and the integration of components are available. An accelerated life time test was made in order to have a guaranteed accuracy of 15 years.

Simone Daniele, Hasler Rail

All energy metering related products are in accordance with all standards and TSI's. The interface from e.g. DCS to Erex is compliant with UIC 930:2009. Energy Portal (the DCS) is compliant with the TSI and EN requirements, but also has extra functionalities. Guidelines of Eress are helpful in the process of certification. A new product permits distributed metering system usable for submetering on-board of trains. The assessment regarding EN 50463:2017 is ongoing. In case of an upgrade a gap-analysis is made and assessed with the Notified Body.

