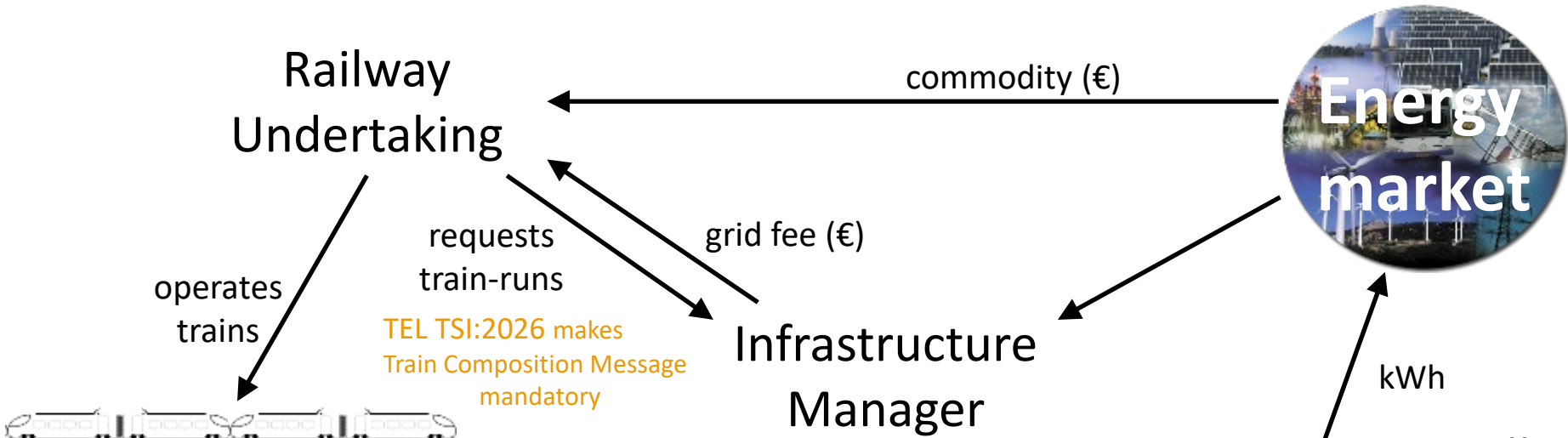

Status EN 50463

Bart Van der Spiegel, Infrabel

EN 50463: history

- Started on request of European Commission and ERA in 2007.
- First edition of EN 50463 series published in 2012.
- TSI LOC&PAS and TSI ENE of 2014 referred to EN 50463:2012. EMS became mandatory on all new, renewed and upgraded trains.
- An interface between two TSIs shall be uniquely defined.
- A second edition of EN 50463 series was published in 2017. This version included a first protocol for the communication between the Energy Measurement System (EMS) on-board and a Data Collecting System (DCS) on ground.





TEL TSI:2026 makes Train Composition Message mandatory



LOC&PAS TSI:2018
Support retrofit in 2023
Update expected in 2027
EN 50463:2017
New version end 2026



On-board Energy Measurement System

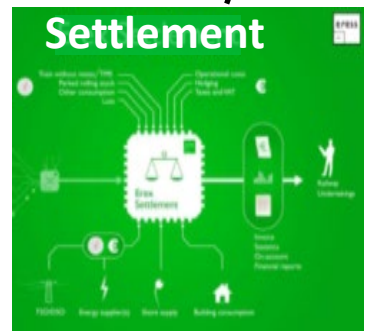
data for validation, estimation and allocation

TEL TSI:2026 makes Train Composition Message mandatory

ENE TSI:2018
Update expected in 2027
EN 50463:2017
IRS 90930:2020



Data Collecting System on ground



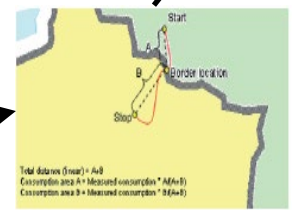
Allocate:

- allocate consumptions to the correct end user
- distribute to correct actors in energy market

Validate/estimate:

- validate data coming from EMS
- estimate missing data

CIR EU/2018/868
IRS 90930:2020

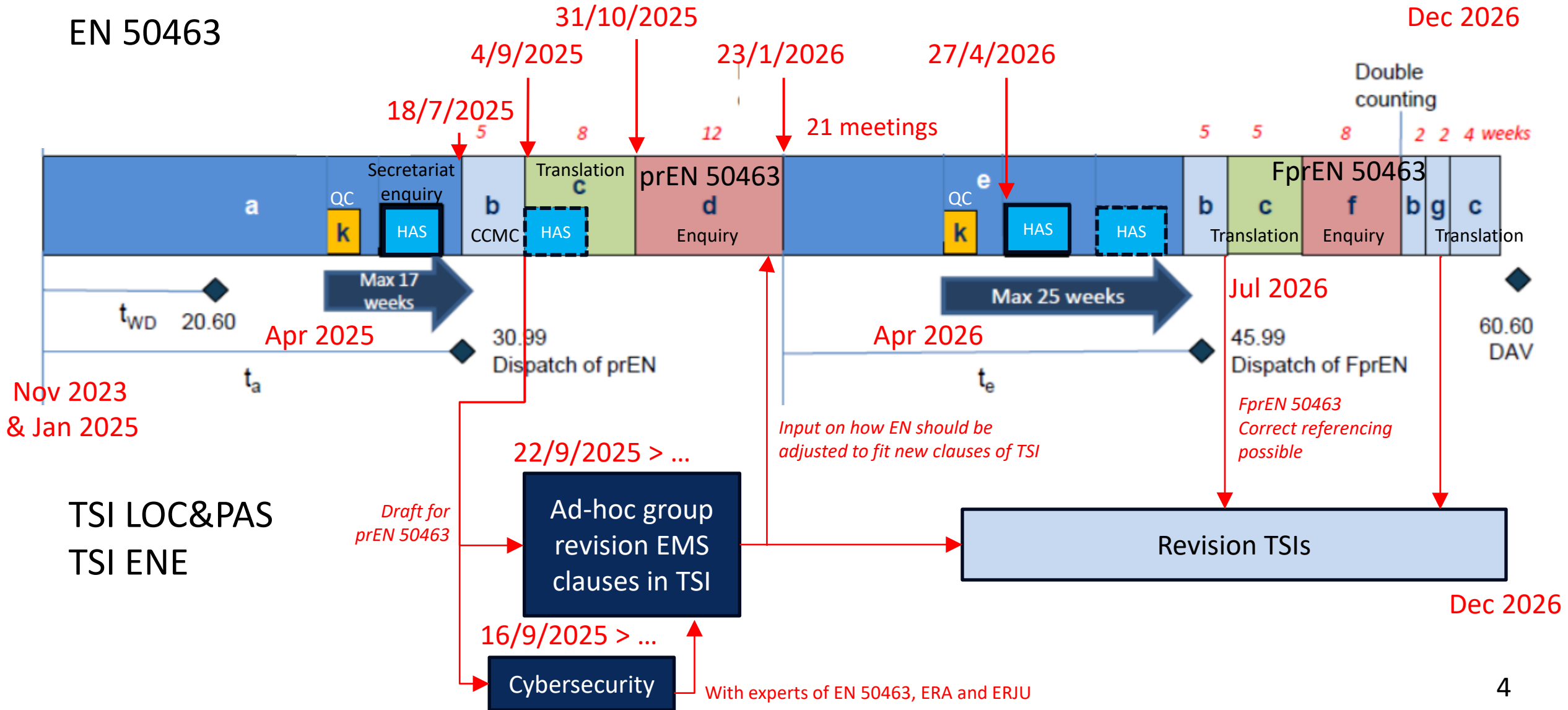


CIR EU/2018/868
IRS 90930:2020
Update expected in 2027

Exchange:

- allocate consumption to country where consumption took place
- distribute to correct settlement system

EN 50463: start of new Working Group 37



- Distinction between energy measurement system (EMS) and consumption point (created during the installation of an EMS on board)
- Introducing general clause and an informative annex on Cybersecurity
- Introducing multiple changes for hybrid trains
- Clarifying process of commissioning and maintenance
- Introducing possibility to have integrated energy measurement function combining current measurement, voltage measurement and energy calculation
- Enabling other sources for location data next to data coming from satellites
- Introduce secure protocols (HTPPS)
- Add possibility of a direct connection on-board
- Add standardised digital signature, uncompressed payloads and mechanism for a batch of samplings at a higher frequency (e.g. every second)
- The same protocol will be used in EN 50463 and IEC 62888
- Ensuring NoBo verifies reverification procedure and design review of integration and installation
- Adding possibility to use mobile testing equipment to verify accuracy without dismounting

Timeline

- September-October: possibility to vote and to introduce editorial comments to EN 50463 (CENELEC)
- December 2026: approval of EN 50463 (CENELEC)
- December 2026: report with proposal of changes to TSI (ERA)
- February or June 2027: approval by RISC of Commission Implementing Regulation (EC) adopting the changes to TSI
- May or September 2027: possibility to vote on Amendments on EN 50463 (adjusting Annex ZZs to new LOC&PAS TSI)
- December 2027: Edition 2 on IRS 90930 (UIC)

