ERTMS TOOLS
JRU Analyzer

Multitel

Railway Certification

The Railway Certification Department of MULTITEL is specialized in ERTMS testing solutions.
It gives support to the certification, provides performance and reliability test solutions to railway industry and offers maintenance solutions, train/track validation support of ERTMS deployment and interoperability test solutions to railway infrastructure managers.

JRU Analyzer (MRL-JRA):

MULTITEL designed tools that are complementing work related to accreditation process in order to better overcome on the field issues. Such tools are used today to support several projects which are using test trains and which embarks MULTITEL hardware.

The system evaluates all information registered in the JRU hardware of MULTITEL (MRL-JRU-EMU) and display all relevant information related to it.
The DMI is reconstructed based on the content of the JRU logs.

JRU2Track :

The JRU Analyzer can be used to EXPORT a test sequence in the format used by test benches of MULTITEL (MRS). In others words, real track data which are recorded inside all trains juridical recording units can be used to check the conformity of the track implementation with the design.

Maintenance:

Most of the ERROR'S identified by the JRU Analyzer correspond to a FUNCTIONAL issue which ONBOARD have recorder are potential failures. When such FUNCTIONAL classification appears on a regular base on the same location of the trackside, a SCHEDULE can be created to support maintenance STAFF to have a look at a specific arera of the field.
This preventive mesure helps to isolate local issues on the track and to take appropriate action on the field.
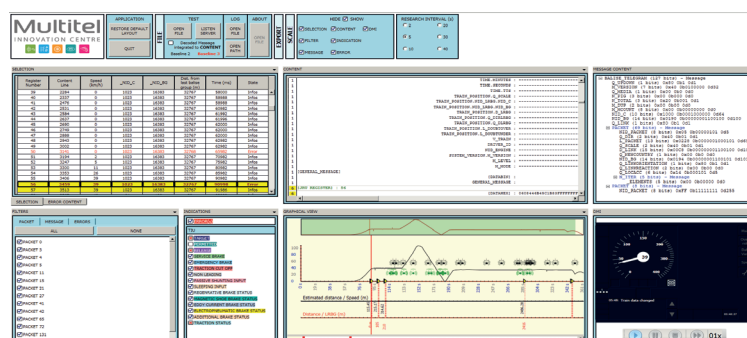
Functionalities:

Visualization of the JRU data, including the decoding of the Balise and Radio messages , TIU.

Comparison/ Conformity of Observation and Design is done based on the MRS representation of the journey's with the observed JRU data. The MRS can represent the whole network and can contain multiple journeys. JRA will indentify automatically the corresponding journey, so statistics gathering will be done as a background task in a transparent way.

Multiple logs can be downloaded for the visualization of statistical data of the network will point for each journey or part of the network the operationnal issues.

Comparison / Conformity of Observation and Design:

• Balise or Radio Message inconsistency
• MSRP conformity with observed speed
• Distance between Balises
• Track conditions
• Check of linking information
• Train Model verification (e.g traction and braking curves)

Statistics:

• Number and place of radio connection losses
• Number and place of Balise issues
• Respect to time schedule (histogram by place)
• Changes of expected modes (e.g SR «Staff Responsible» instead of FS: «Full Supervision»).

In case of non conformity a RED bar appear below the speed and TIU graph, showing where the issue was observed, therefore supporting on the correction of the issues.

JRA Model	MRL-JRA-V1.0
Data Base format	JRA Model
ERTMS Baseline	2 or 3 (R1 or R2)
DMI Reconstruction Standard	ERA-ERTMS-015560 v340
Train Parameters format	MRS
Operating System	Windows©7 or Windows©10 (english)
CPU Requirements (Minimum)	Intel© i5, 1Go RAM, 1Go Disk
Train Schedule format	MRS

JRU Compatbility

MRL- JRA is compatible with MRL-JRU-DWN (JRU Downloading tool). With the use of this tool it can read most commercial JRU's on the market by supporting Subset -027.

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