



ROLLING STOCK ASSET MANAGEMENT MEETING IN ADIF FACILITIES CLUSTER C



Adif participates as a founding member, along with RENFE, CEDEX, INECO and Adif AV as affiliated entities, in "Europe's Rail Joint Undertaking" (EU-Rail), the European association for railway research and innovation that aims to offer a high-capacity, flexible, multimodal, sustainable, reliable and integrated EU rail network for passengers and freight. One of EU-Rail's flagship projects is Flagship Project 3-IAM4RAIL (FP3), aimed at intelligent and integrated asset management, for which Adif has succeeded in becoming the coordinating entity.

As leader of Cluster C within FP3-IAM4RAIL, Adif brought together the participants of work packages Work Package 5, Work Package 6 and Work Package 7 at its offices in Méndez Álvaro, Madrid, on 19 and 20 September. The three work packages make up Cluster C and focus on rolling stock monitoring. KNORR-BREMSE, leading Work Package 5, and ALSTOM, as leader of Work Package 6, focused on new technologies to be installed on board the rolling stock to monitor its condition. Work Package 7, led by Adif, focused on the development of the Railway Checkpoint, a track-side control point to be installed on relevant sections of the Trans-European Transport Network (TEN-T) to collect information on rolling stock. As a cross-cutting objective for the entire Cluster C, the necessary standardisation of data was analysed.



The aim of the meeting was to make progress on the installation of demonstrators, to decide on the technologies to be installed in the prototypes and, finally, on the subsequent processing of the data obtained by the demonstrators.



The project is supported by the Europe's Rail Joint Undertaking and its members.



Work Package 5 and Work Package 6 - Rolling stock (on-board): Data acquisition, monitoring technologies, asset condition forecasting and feedback in operational processes.

During the meeting of the experts from the participating European entities, the different strategies for obtaining new data using sensors on the bogie, which means optimising in real time the measurement of parameters affecting the performance of the rolling stock, were discussed.

These new methods will allow automatic and standardised control of variables such as temperature, vibrations, pressure, oil condition, etc. With this data, algorithms will be developed that will make it possible to determine the state of the different elements that make up the bogie.

In conclusion, it has been possible to establish the methodology to be followed between the input data (sensors), the way of measuring them (test bench) and the desired results.

Work Package 7 - European Railway Checkpoint for mixed traffic

The different specialists presented their points of view and discussed the different locations where the demonstrators will be installed, and where the tests will be carried out. These tests will be performed on different track gauges (standard/Iberian), with different types of traffic (passenger/freight) and at maximum and minimum speeds. To cover all scenarios, three locations in Spain and two in the Netherlands were selected.



Once the locations have been established, the different elements of the rolling stock to be monitored (pantographs, wheel profiles, braking systems, bearings, etc.) and the technologies used for monitoring (video images, sound, laser, etc.) were discussed and decided upon.



This is a challenge which involves not only obtaining and analysing the necessary data for the prototypes, but also adapting their interfaces and applying the various existing technologies, such as artificial intelligence, infrared images and vibrations, among others. Thus, the objective of increasing the service life of the rolling stock and reducing operations and maintenance costs, allows an increase in the reliability, availability, maintainability and safety of the railway system (RAMS).

Cluster C, led by Adif, continues to play a crucial role in the progress of the FP3-IAM4RAIL project. The efforts in Work Packages 5, 6 and 7 are contributing significantly to the improvement of efficiency and safety in rail transport in Europe. We appreciate the hard work and dedication of all team members in Cluster C and look forward to the continued success of FP3-IAM4RAIL.



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