

RAILLIVE!

29 November - 1 December 2022 | FYCMA Málaga



SPEAKER INTERVIEW

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@RailLive_Malaga



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Can you share more on your role within SNCF Voyageurs and your current priorities?

SNCF Voyageurs is one of the largest transport companies in the world specializing in rail, including high speed, regional trains, intercities and mass transit (Paris, Lyon, etc.).

My role is to manage the rolling stock maintenance engineering of this company (around 350 TGVs, 5,000 multiple units, 1,000 locomotives and 3,000 cars). SNCF Voyageurs Material Engineering has nearly 2,000 engineers and technicians. Competent on all the functions of a train and for all the phases of the life cycle of the materials, one of my responsibilities consists in developing solutions to be more efficient on this maintenance (availability, reliability and costs). Predictive maintenance is one way to achieve this.

In your eyes, how has railway maintenance changed and evolved in recent years, particularly with the rise of digitization?

Rolling stock maintenance has evolved mainly because railway rolling stock has evolved. From 2009, on-board computing, TCMS (Train Control and Management System), electronics, microprocessors, and software replaced electrical or pneumatic systems. In addition, new functions have appeared or become widespread: regulated air conditioning, video protection, passenger information system, ticketing, access for people with reduced mobility, etc.

This has brought reliability to the trains and comfort for the passengers. But it is also more complexity for maintenance. We couldn't pass it all on to cost and availability of assets.

Thus, in recent years, SNCF Voyageurs has developed (opportunistically I admit) as a world first and on its own funds, remote diagnostics and predictive maintenance on more than 300 sets in operation. We used the data circulating in the train's computer networks to optimize maintenance.

What are some of the key benefits smarter maintenance or predictive maintenance offers operators?

Predictive maintenance does 3 things:

First to know is seeing in real time (or within 10 minutes) the state of the equipment (presence of failure, loss of redundancy, etc.)

Second, to anticipate a breakdown. Using algorithms developed on the ground by SNCF Voyageurs engineers, we can capture a weak signal, mix it with context data and deduce a probable failure with an estimated date and a probability associated. It is 95% according to our measurements carried out for nearly 10 years.

Thirdly, to carry out CBM (Condition Based Maintenance). This means automating systematic preventive maintenance by continuous analysis of on-board data processed which is also done by powerful algorithms developed on own funds by SNCF engineers. In other words, it is a question of eliminating the operations of periodic checks (verification that everything is okay) because the function is constantly self-evaluating thanks to the data exchanged and their continuous analysis.

At Rail Live, you are presenting SNCF's cutting-edge work with predictive maintenance. Can you give us a brief summary of what we can look forward to in this presentation?

Rail Live's presentation will be a sharing of SNCF Voyageurs experience on predictive maintenance. I will try to show how, thanks to our 10 years of experience, we have been able to model the value chain of remote diagnostics and predictive maintenance, act to develop it, industrialize solutions and support change in the field. Both for operators and their managers. I will also present the measured gains of the approach.

Because with more than 1,000 trains on which we perform CBM and more than 3,500 on which we perform remote diagnostics, we can really show the gains that the global approach provides.

What does the future of rail maintenance look like? Where do you see the industry heading in the next 5 years?

It's not easy to predict the future. But rolling stock maintenance has already evolved a lot. In any case at SNCF Voyageurs, both for the TGV, the TER, and the Transilien, maintenance has been able to adapt to provide more regularity and comfort to passengers.

The future will be to continue the development of these solutions and to do everything so that in France, which opens up operation and maintenance to competition, innovation, risk-taking by engineers, etc. will not be held back by short-term concessions.

But the railway industry has a future because rail transport is a clean and ecological means of transport. It is therefore necessary to develop these practices to remain efficient and competitive. These will be the challenges for the next 5 years.



Cyril Verdun is taking to the Rail Live stage on the 1st of December to discuss:

"SNCF's extensive experience with predictive maintenance ."

[See who will be joining Cyril at Rail Live >>](#)

[Visit our website here.](#)

ABOUT

RAILLIVE!

Rail Live! brings together the global railway industry to explore technology, innovation and investment for the entire rail supply chain.

The conference has three overarching themes - Digitisation, Liberalisation and Sustainability - and covers topics such as Digital & IOT, Mega Projects, Intelligent Infrastructure, Smart Train Control, Metro, Integrated Mobility, Smart Stations, Freight, Power & Sustainability, Light Rail and more.

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