Jan, you are currently the Information Manager at GVB, and have worked in rail for a long while, but how did you first become interested in working in this industry?

I have started working in this industry at Dutch Railways in 2004, at the beginning of the introduction of the national contactless public transport card. Coming from the rapidly growing silicon industry with very complex systems and huge organisational challenges, it seemed the right next step for me. And it was!

Over this time, what has been the most exciting or innovative project you’ve worked on?

As Information manager at GVB I’m responsible for the introduction and realisation of a new innovative strategy for ICT in the vehicles. We are creating an open communication platform with continuous broadband connection to the backoffice and which is based on standardized hardware components and open interface standards. In the traditional world that Public transport is, the customer demands on information technology are evolving day by day due to the incredible speed of technology innovation around us. The challenge to keep ahead is enormous. With the open Generic ICT Vehicle Architecture (GIVA) platform we are able to offer flexibility to the business, with cost reduction and maintenance efficiency on new and existing onboard systems.

Why is the application of CBM technology so important for the rail industry right now?

As with many cities, Amsterdam has become a very popular destination to settle and to visit over the last few years. This has led to an economic boost and the city becoming more and more crowded. As a consequence, we need to transport many more passengers than expected. Given the costs and lead-times to expand the fleet, we need all the vehicles we have to be operational in the field! There is little time left for repair, so we need to optimise our maintenance process to the maximum. Coincidently, we now have the technology to monitor the mission critical systems on board in real time, and to store all information in Big Data systems for analysis. The need for RCM and CBM has therefore evolved from a teenage dream for maintenance engineers to a grown-up business critical factor to meet the demands of today.

What benefits can either of these programs yield?

The main benefit right now is higher availability of vehicles, due to better diagnostics and real time monitoring. With RCM we can optimise the corrective maintenance process (can the driver fix the problem with remote assistance or can we send a maintenance engineer to the endpoint of the line?), reduce the number of false alarms, better plan the supply of spare parts and find the root causes of failures more quickly. Those are all low hanging fruit, if we would be able to send (the right) diagnostics data to the shore, in real time. Based on this data we would be able to work towards predictive maintenance in the future as well. The benefits of that would be gigantic, because of much lower maintenance costs than the current preventive maintenance and higher availability as well.

What specific challenges have you encountered in applying CBM with GVB?

As an operator with our own fleet maintenance department, we have many different series to maintain, from different manufacturers. All manufacturers deliver their own diagnostics solution. As GVB we are confronted with different technology suites, often not very open for data analysis. A lot of data that is generated in various subsystems in the train is not available on shore. Often the subsystems are based on relatively ancient technology, like MS-DOS, that makes it hard to interface with. We strive towards an open, modern solution to retrieve more data from the trains. We want to integrate this in one monitoring and analysis solution for various departments within the company.

How have you overcome these challenges?

We are unifying the different modalities (metro, tram and buses) to work towards a generic solution for fleet monitoring and we are working on various solutions to be able to retrieve more data from the specific vehicle series. For new series we specify open standards to be able to retrieve more data from the vehicles in the future, without having the costs of additional modules or reversed engineering.

Jan, in your presentation you will be identifying data sets to maximise the payback of CBM - can you give us a taste of what you will cover?

In my presentation I will go into the problems we have encountered in our maintenance process, identify which data sets to analyse on how to identify which data sets to analyse to maximise the payback of Condition Based Maintenance. For more information, visit: www.rolling-stock-maintenance.com

At the 5th Annual Rolling Stock Conference in December, Jan will be providing a case study on how to identify which data sets to analyse to maximise the payback of Condition Based Maintenance. For more information, visit: www.rolling-stock-maintenance.com