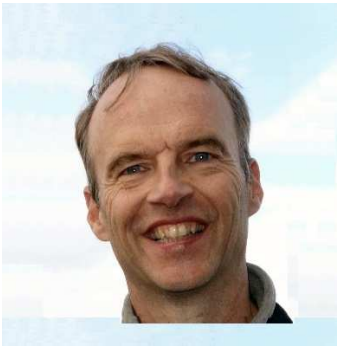

Maarten Bartholomeus

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Biography:

Maarten Bartholomeus is working as ERTMS expert within the Dutch Inframanager ProRail since 2007. He has twenty years of experience in ERTMS and has worked in several railway projects as engineer, consultant, project manager and assessor. Maarten has a master degree in Physics.

As ERTMS expert Maarten is responsible for the Dutch ERTMS engineering rules, ERTMS project specifications and ERTMS user processes. Maarten actively cooperates with the ERTMS User Group and the European Railway Agency in establishing specifications and guidelines for ERTMS. Maarten is one of the founders and co-author of the ERTMS Hybrid Level 3 principles.

Title of presentation: No barriers for level crossings

Summary:

The best level crossing is no level crossing. But although the goal is to eliminate the level crossings this may not always feasible or affordable. This paper addresses a method where ERTMS allows to innovate the level crossing protection to take away some barriers.

Currently trains are announced with trackside train detection when approaching a level crossing. This can cause considerable variations in closure times (i.e. if the train speeds vary) and issues with temporally loss of shunt. With the ERTMS train position and speed information a more constant warning time (CWT) can be achieved without the use of track side train detection. The possibility of updating the movement authority allows to reduce long the closing times, e.g. in case of unpredictable delays in dwelling. The ERTMS LX DMI function to instruct the driver to cautiously approach the level crossing improves operation degraded situations. These functions allow ERTMS to take away some barriers to improve the performance, safety, reliability and to reduce the costs for level crossings.

Summary:

The best level crossing is no level crossing. But although the goal is to eliminate the level crossings this may not always feasible or affordable. Does the introduction of ERTMS allow to innovate the level crossing protection and take away some barriers?

Currently trains are announced by with trackside train detection when approaching a Level crossing. This can cause long closure time (i.e. if the trains speed vary) and can have issue with temporally loss of shunt. Can the frequent train position and speed information of ERTMS train in Level 2 and 3 be used to reduce and enable a more constant warning time (CWT) and eliminate the dependency of track side train detection?

Interesting of such a solution would be if this provides an improvement in the sometime very long closing time due to the unpredictable delays in dwelling for level crossings close to a platform.

In The Netherlands a too long level crossing closure can result in a vocal procedure to cautiously approach the level crossing, can ERTMS provide with an alternative?