Management of low adhesion on railway tracks in European countries - DTU Orbit
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This report presents approaches of selected European countries to the management of low adhesion problems. It spans approaches addressing different levels of the problem, including preventive measures focusing on the tasks aimed at removing or reducing low adhesion, mitigative technical measures aimed at improving wheel performance in low adhesion conditions, as well as mitigative measures for driving and operating trains under these conditions. The report thus spans measures that are often managed by different organisations, mainly infrastructure managers and train operators. The report focuses on management of low adhesion and will not go into detail with the characteristics and generation of the low adhesion layer but will touch on this only to the extent that this determines or is directly linked with the specific low adhesion measures taken. Neither will the report go into detail with purely technical aspects of e.g. braking and WSP systems, but focus on the implied requirements for organisations and drivers.

The report is largely based on literature describing measures taken by existing railway organisations, comprising, besides a few journal article, largely reports by railway organisations and authorities, supplemented by presentations from an International Workshop held at DTU on 16 April 2013 at which experts presented updated knowledge about measures in the UK, Germany, the Netherlands and Sweden. The background for this report was a DTU project originally focusing on a SPAD1 incident in 2011 in Denmark and the braking ability of a specific type of train (Havarikommissionen 2012), but since expanded to encompass general problems with low adhesion (Nielsen et al. 2012). This report thus addresses problems that are already well-known to Danish railway organisations, but it gathers and analyses results and experiences from neighboring European countries that have similar climate, vegetation and rail infrastructures. This report provides information that is based on up-to-date research and experiments in countries, where this topic has been subject to systematic investigations and empirical research.

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