

# EURAIL *mag*

**BUSINESS & TECHNOLOGY**

THE MAGAZINE FOR EUROPEAN RAIL DECISION MAKERS AND CUSTOMERS

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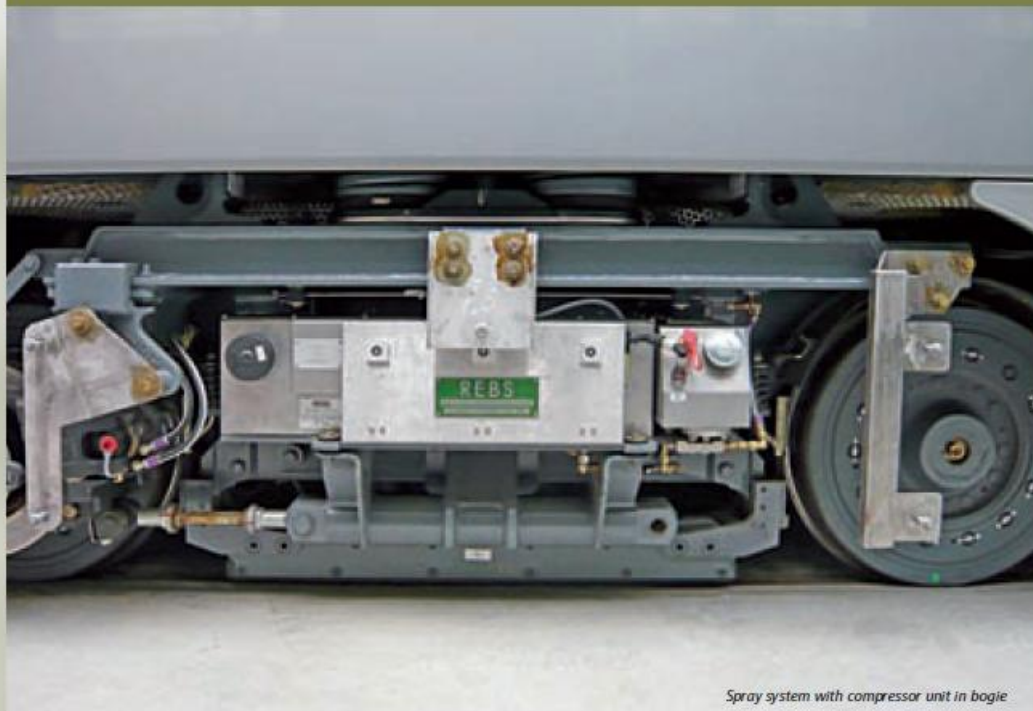




# NOISE

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## RAIL SQUEAK ON BENDS – TOR CONTROL FOR MOBILE RAILHEAD LUBRICATION



*Spray system with compressor unit in bogie*

AN INCREASING NUMBER OF METRO, TRAM AND RAILWAY COMPANIES ARE INTERESTED IN ELIMINATING RAIL SQUEAK ON BENDS BY REDUCING THE FRICTION BETWEEN THE WHEEL AND RAIL, THEREBY AVOIDING THE NEED FOR STRUCTURAL NOISE PROTECTION MEASURES. HOWEVER AUTHORITIES AND SPECIALIST BODIES ARE HESITANT ABOUT APPROVING THE USE OF LUBRICANTS ON THE RAILHEAD DUE TO THE LACK OF SAFETY CERTIFICATES COVERING THEIR USE.



*TOR Control computer*

to an industrial computer as the functional control, railhead lubrication by mobile

spray systems is now possible. Swiss firm Igralub, active in the field of rail squeak on bends for more than 15 years, together with Railtec Systems also from Switzerland, has brought a new development to the market with TOR Control (TOR). Unlike the earlier, simple systems for detecting curves (sensors, transponders, GPS), this solution comprises a computer that receives signals

from GPS and other sources, then controls and triggers the spray commands on the basis of predefined criteria. This approach guarantees applications that are both predetermined and high precision. Operationally relevant inputs are also registered and can be redefined specific to the project in hand. Recorded by the TOR computer, this input is converted into the corresponding com-





mands. Hence the use of lubricants on the railhead is kept under strict control. The following components are thereby used:

**LUBRICATION SYSTEM**

The lubricant is applied using a spray system built into the vehicle, which, while moving, applies a specific amount of lubricant onto the railhead during a predefined spray period via compressed air (at 6 to 8 bars). This spray command is carried out by one or more solenoid valves in the system. The spray quantity and duration are determined in advance. In the case of longer curves, the spray intervals are repeated until the end of the curve.



Teach-in run to create mapping

If there is no compressed air available in the vehicle, a corresponding compressor unit is installed. In certain vehicle models it may be fitted in the bogie or the interior area.

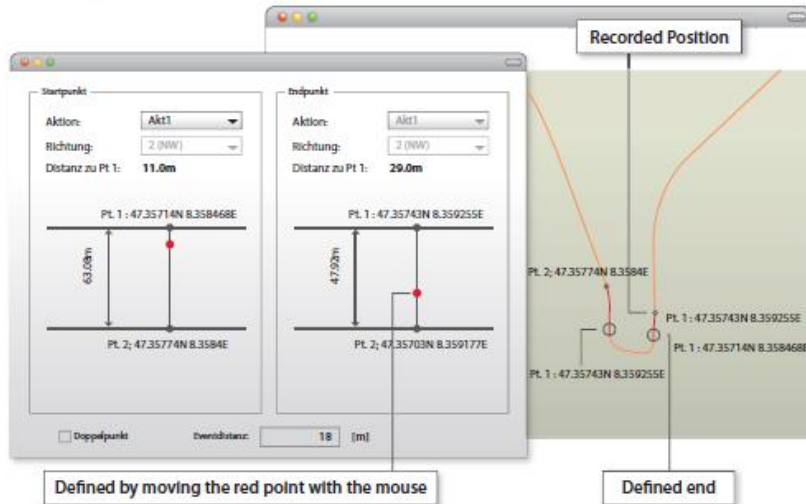
All the signals sent from the spray system and compressor unit are registered by the TOR Control and can be used for monitoring and control.

**LUBRICANT**

Where lubricants are used on the railhead as a friction modifier, they must only alter the friction coefficients to such an extent that the approved braking distance is not exceeded. Here weather conditions such as rain, mist, heat and cold must also be taken into account.

**Service Tool: add actions to the recorded line**  
 Define end of stretch to be lubricated by mouse click

Recorded lines with coordinates



Defined by moving the red point with the mouse

Defined end

**Curve Noise !**

**We have the solution**

**IGRALUB** Swiss quality for global wheel & rail management

**TOR Control System by GPS makes top of rail treatment safe!**

For any rail head treatment you need experiences about application:

- Friction Modifier
- Lubrication- &
- Control System

**Igralub, your Total Services Provider for rail head treatment**

Meet and see us at InnoTrans 2010 in Hall 26 Booth 225 (SWISSRAIL)

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