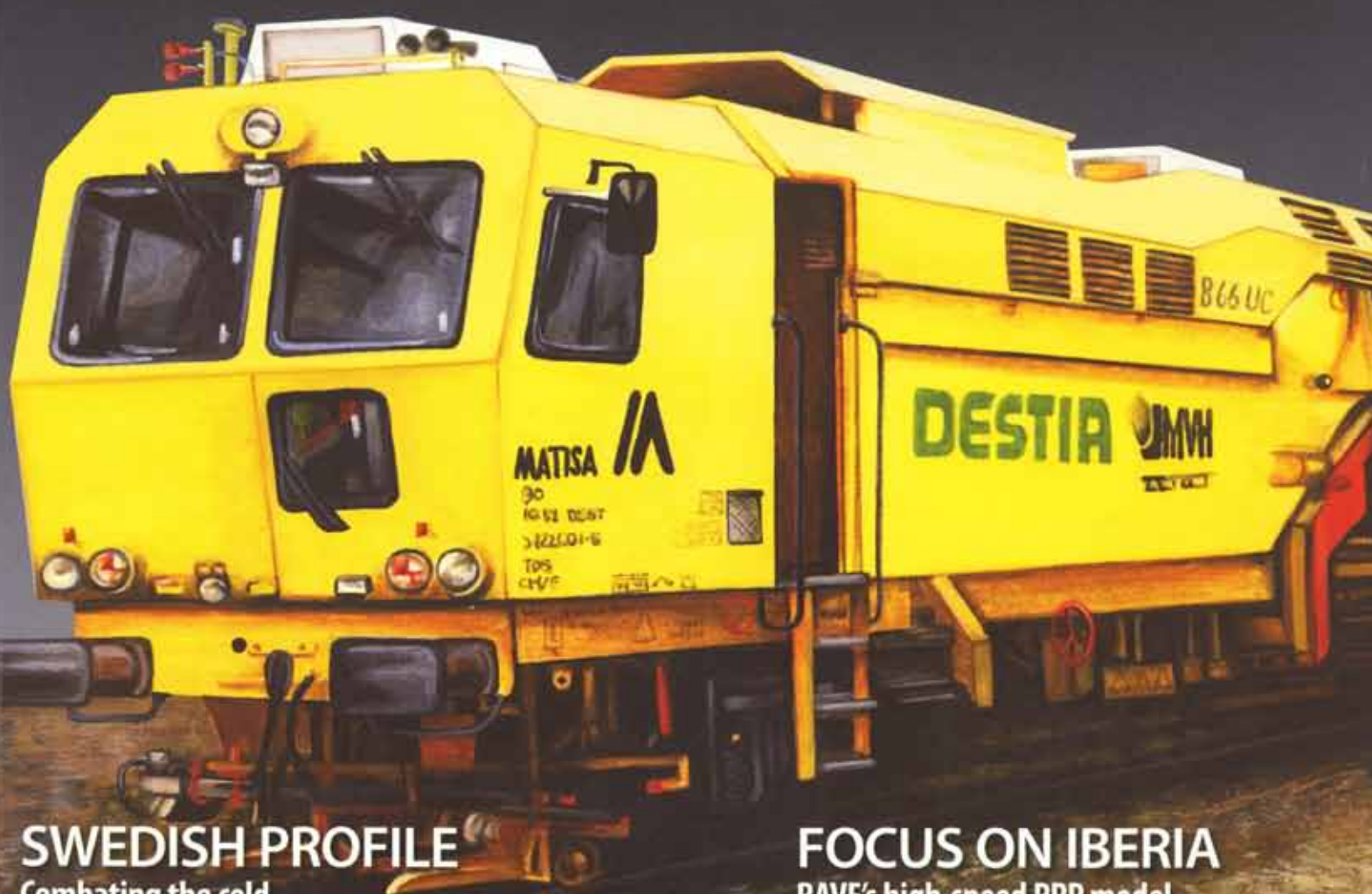


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SWEDISH PROFILE

Combating the cold

Gunnar Malm, Director General of Trafikverket

Shaping Sweden's future transport policy

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Upcoming *European Railway Review* Conference:

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getzner
the good vibrations company

Ballast mats within areas of reduced ballast depth

For many years now, ballast mats (UBM) by Getzner Werkstoffe have been an integral component of modern ballasted track. UBM are used around the world, mainly to reduce structure-borne noise.

UBM's for a range of diverse operations from Getzner

In addition, they are also extending the lifetime and reducing the maintenance costs of ballasted track by introducing a defined elasticity.

Above and beyond this, UBM help to protect bridges and their corrosion protection layers.

Reduced ballast stresses thanks to elasticity

Railway and public transport companies face the problem of ballast deterioration caused by excessive stress particular in areas with very stiff subgrades, such as bridges and tunnels. Ballasted track is subjected to even greater stresses in sections with reduced ballast depth due to structure-related factors. Old wooden



For many years now, ballast mats (UBM) by Getzner Werkstoffe have been an integral component of modern ballasted track

sleepers are replaced by taller concrete sleepers and therefore it is often impossible to realise the necessary ballast depth to handle the loads involved. The excessive stresses result in quicker deterioration of the ballast. Increasing train frequencies and speeds often exacerbate this negative effect. This reduces the effective lifecycle of the ballast. Consequently, higher maintenance costs can be expected in track sections with structural limitations and generating a significant reduction of availability of the track. Much of these can be avoided.

Ballast mats: a high degree of track elasticity

One way of countering excessive deterioration of the ballast is the installation of UBM. They can offset many of the negative effects related to limited ballast depth.

European operators rely on UBM more and more

European railway companies have added UBM as standard components to their construction guidelines. For example, Instruction I-AM 05/02 of the Swiss National Railways (SBB) notes the use of UBM in track sections with reduced ballast depth. This special solution for areas with a ballast depth < 30cm provides the necessary additional elasticity for the

superstructure by using UBM. This is reducing wear on the rolling stock, rails, ballast and underlying structures.

The German Federal Railways (DB) uses UBM in sections with reduced ballast depth. Again, the main goal is to provide additional elasticity to reduce ballast pressure and to protect the underlying structures. DB Guideline 820.2010 summarizes the basic aspects of the track superstructure: for reduced ballast depth (< 30cm), a load of > 10,000 load tonnes/day and speeds < 120km/h, either sleeper pads or ballast mats are to be used.

The aforementioned considerations and experiences have led to the use of UBM in the UK since 2008. Network Rail installed UBM's in a tunnel section of the Gospel Oak line (London) with a ballast depth of only 13cm. The extra elasticity of the ballast mats serves to harmonize the track stiffness of this section with the rest of the track. This significantly reduces the ballast deterioration.

Getzner solution: combined reduction of ballast stresses and vibration

A combination of properties for reducing ballast stresses and mitigating vibrations is often needed to protect residential areas near railway lines. UBM made of Sylomer® and Sylodyn® material have been used by railway and local transit companies for many years. The available range of products is designed for very diverse set of operating conditions, ranging from tramways to high-speed lines. Therefore Getzner Werkstoffe is able to offer its customers a technically advanced, economically viable solution for any situation.



Stefan Potocan

Stefan Potocan is Product Management Rail Products at Getzner Werkstoffe GmbH. He started work for Getzner Werkstoffe in May 2004. He is the representative for Getzner within various standardisation workgroups (CEN, OeNorm etc) and cooperate development projects together with universities like Chalmers or TU Graz.

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EXHIBITION STAND No: 217 in Hall 25