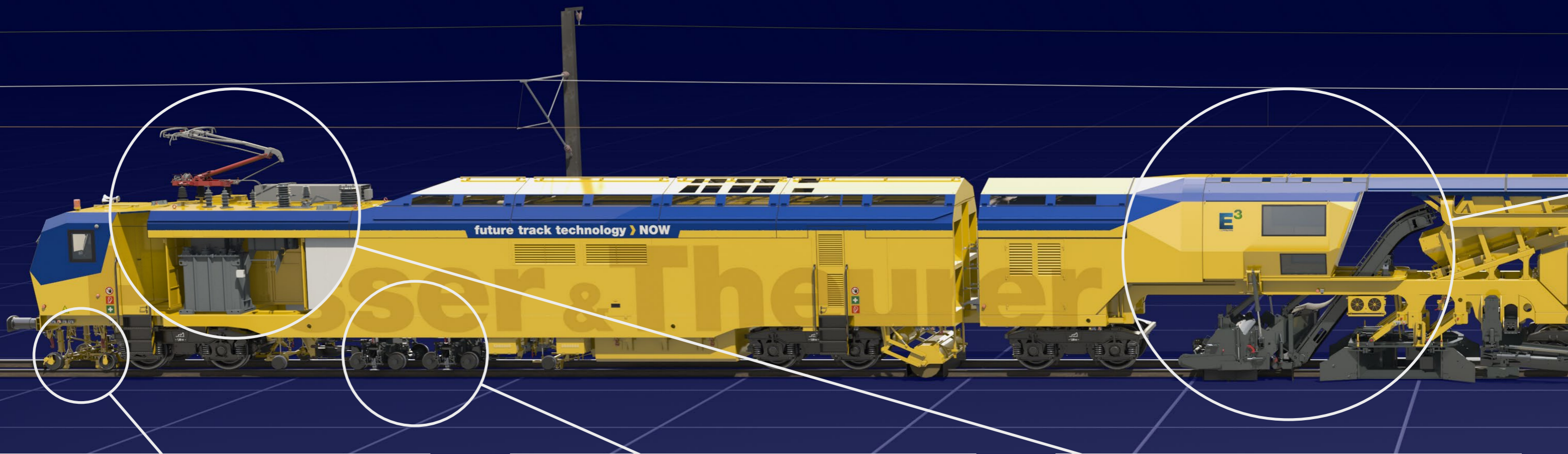


future track technology > NOW



Plasser InertialTrackGeometry: ON THE FAST TRACK TO TRACK GEOMETRY

In addition to the conventional chord measuring system, the machine is fitted with the future-proof technology for precise and comprehensive measuring results: the inertial measuring unit mounted on a two-axle trolley. The IMU records a space curve that is assigned a relation to the rails via mechanical track gauge measuring. The compact system set-up enables complete post-measuring with little space required. Further, it is possible to survey the track geometry at speeds of up to 60 km/h prior to track correction – this saves a significant amount of time in daily operations. The system also enables a precise depiction of long-wave faults (alignment and longitudinal level faults for the wavelength ranges D1 and D2).

DYNAMIC TRACK STABILISER FOR OPTIMISED DURABILITY OF THE TRACK GEOMETRY

Dynamic track stabilisation has become indispensable to sustainable track maintenance. This is all the more important as traffic loads increase. High-speed lines are particularly affected. The stabilising units rearrange the ballast stones into a more homogeneous structure. This means that the dynamic forces produced by rail traffic are more evenly distributed within the formation. Therefore, there is no longer any need for speed restrictions after tamping. In addition, controlled settling considerably increases the track panel's lateral track resistance. For even more homogenous track quality and for stabilising ramps and transitions more precisely, the Unimat 09-8x4/4S BR Dynamic E³ is equipped with another option: the continuously adjustable variable impact force from 0 to 100 per cent.

“ECONOMIC - ECOLOGIC - ERGONOMIC” : THE POWER OF E³ HYBRID DRIVE TECHNOLOGY

Prepared for today's demands: the Unimat 09-8x4/4S BR Dynamic E³ is driven by the revolutionary new E³ hybrid technology. In addition to the conventional drive system, the machine can be fully electrically powered during travel and working mode. All rotary motions are powered fully electrically. Only a few linear movements remain hydraulically powered. The drive technology reduces hydraulic oil consumption by 80 %. Running mode using carbon-neutral traction current lowers diesel consumption drastically. Additionally, E³ reduces noise emissions significantly and thus increases line-side residents' acceptance of the machine.

EFFICIENT BALLAST MANAGEMENT – “SPOT ON” AND AS NEEDED

For ensuring the highest level of tamping quality and sustainability, the Unimat 09-8x4/4S BR Dynamic E³ comprises time-tested technologies for ploughing, sweeping, profiling, and ballast management. Surplus ballast is systematically collected, stored (approx. 9 m³ hopper capacity), distributed, and discharged via plough, sweeper, and profiling units. The combined machine concept uses existing ballast sustainably and replaces ballast in front of the tamping unit in a targeted manner. This enables tamping in large areas without interruptions due to additional ballast placement thanks to external ballast trains. This machine concept includes a shoulder plough with slewing limitation to prevent infringements of the clearance gauge and a centre plough for re-arranging track ballast on the ballast crown. The new sweeper brush no longer needs to be replaced separately for wooden and concrete sleepers. It adjusts at the push of a button.

MODERN CREW COMPARTMENT

The Unimat 09-8x4/4S BR Dynamic E³ comprises a highly modern compartment that provides room for six people and contains all the necessary amenities: WC, kitchenette, seating area, heated lockers, and a “digital workplace”. The latter can be used for quality monitoring or for training. Of course, the new crew compartment complies with occupational health and safety regulations. Additionally, there’s a workbench for performing minor repairs.



ONE WORK CAB ONLY: RESEARCH FOR MACHINE OPERATORS

The Unimat 09-8x4/4S BR Dynamic E³ has a variety of functions, yet its operation is simple and clearly structured. Furthermore, this machine comprises another innovative concept which has not existed in this form and design before: there’s only one work cab. The co-tamping operator sits with the tamping operator in the cab and controls the lifting and lining unit, which they can see digitally on six different screens. This has several advantages. The co-tamping operator sits on the continuously moving part of the machine. The 24 high-resolution cameras allow for a better view of the working area compared to an “analogue” workplace. Communication and coordination between the operators is improved.

TAMPING WITHOUT CUTTING CORNERS: 8x4 TAMPING UNIT – PERFORMANCE AND FLEXIBILITY

The 8x4 tamping unit: an entirely new category in the field of universal tamping technology. It is equipped with eight independent tamping units and tiltable tamping tines. The continuous-action 2-sleeper tamping machine offers a newly developed design with increased freedom of motion, tamping depth, and squeezing distance. It is possible to switch to 1-sleeper mode at any time. This adds value, especially when working on hollow sleepers, where the point machine is located, or on double sleepers. Tamping double-slip turnouts and turnouts with a movable-point frog is turnout tamping at its finest. The 8x4 tamping unit easily masters this task using its power reserves and versatility. Thanks to these features, the machine combines the high performance of 2-sleeper tamping with maximum flexibility in 1-sleeper mode.

QUALITY AT A GLANCE THANKS TO THE Plasser TampingReport – DETAILED REPORTS FOR A HIGH LEVEL OF TRANSPARENCY

Plasser & Theurer currently offers two SmartTamping options: the intelligent tamping assistance system Plasser SmartTamping - The Assistant and the Plasser TampingReport. The Unimat 09-8x4/4S BR Dynamic E³ is equipped with both of them. In addition to the result report of the DRP electronic data recording processor, the TampingReport provides you with more detailed information on work sequences. Tamping reports provide proof of technologically correct maintenance and can serve as basis for strategic decision-making. The reports provide detailed information that helps you to optimise and expand the planning of future maintenance activities. Highly customisable display options are available both for the back office and on the machine itself. You can hide and display individual tamping positions, lifting and lining positions, corresponding values, and the obstacles detected while viewing them using the continuous zoom function.