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Emerging Trends for High-Speed Rail Track Superstructures - Ballastless Track as an alternative to the Ballasted Track

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ABSTRACT: **ABSTRACT:** The rising demands placed on rail transportation and the need to make it more competitive have led to the development of new railway track solutions. With the objective to rationalize track costs, new railway superstructure systems have emerged. These new track solutions are technological innovations that differ from ballasted track in that they use other materials and construction methods. They are aimed to reduce the need for track maintenance and renewal, which in turn, leads to reduced operation costs as well as to higher track availability. In evidence of these advantages, there has been an increasing ballastless track construction, mainly in high-speed lines of some European and East Asian countries. Within this context, and bearing in mind that Portugal will be joining the European high speed railway network, an overview aiming to address the emerging trends for high speed railway superstructures and to compare them with the traditional ballasted track was developed.

Keywords: high-speed rail track, ballasted track, ballastless track, bituminous sub-ballast