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Intelligent Maps Provide a Clear View of Tube Lines' Works and Assets

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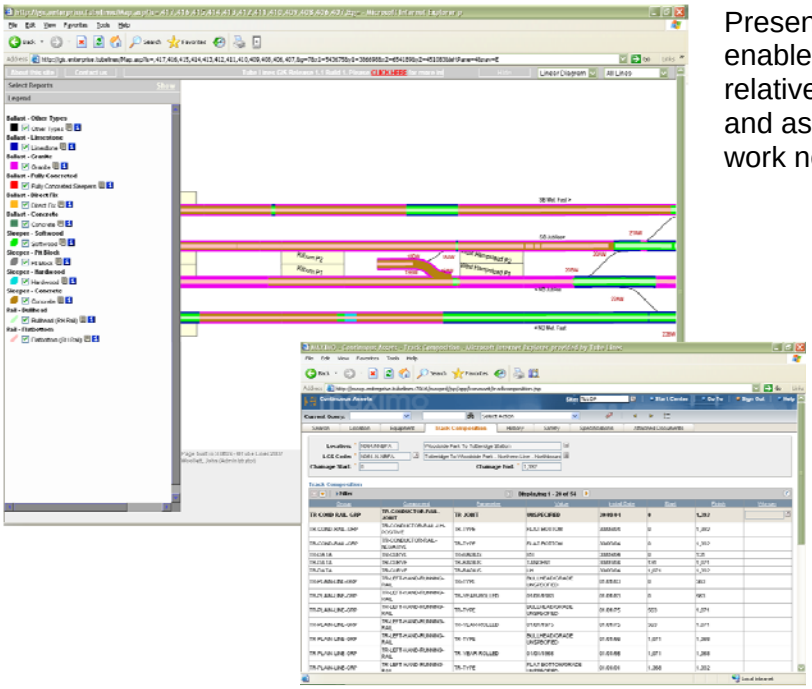

Presenting textual data as a map enables engineers to visualise the relative locations and conditions of track and assets and see the context in which work needs to be performed.

Text-based asset and works management systems like Maximo, Ellipse and SAP are used widely by rail infrastructure operators across Europe. These databases use hierarchical asset coding structures to record location. In the context of rail, this allows a job or asset to be referenced to a particular line together with its relative position along the track.

Rail asset infrastructure management is particularly complex: asset degradation varies considerably around a network due to local variations in a myriad of interdependent factors that all interact to influence asset condition; alignments contain assets from multiple engineering disciplines; and sections of track can contain multiple lines – a situation that is particularly common in light rail networks.

Not surprisingly, the nature or context of a fault or an asset may not be immediately apparent to an engineer reading a textual description of an asset. Similarly, it can be difficult to locate the position and extent of a job quickly or accurately.

www.railtechnologymagazine.com/dataview/News/News_Article.aspx?KeyValue=1329

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When Tube Lines adopted IBM's Maximo as their core asset register, management and work scheduling system, they also selected a Geographic Information System from Intergraph. By presenting the Maximo textual data as a map, it enables engineers to visualise the relative locations and conditions of track assets and see the context in which work needs to be performed.

The map also provides a universal referencing framework enabling key data from other sources to be combined with works and asset data for visualisation, analysis and reporting. In the case of visualisation, supplemental contextual information sources (such as Computer-Aided Design files, documents and photographs) give better understanding of a location and help reduce the number of site visits. The system's analytical capabilities make it possible to overlay works and asset data with data from other databases (ranging from track recording vehicle data to environmental data) allowing engineers to review variations in asset condition and performance across the network to help target maintenance activities or investigate factors, which when combined, might contribute to problems; overlaying maps of track condition and drainage, for example.

Having data referenced to maps also simplifies external data exchange and interaction with third-parties. If a complaint is received of excessive noise, the location of the property in question can be overlaid on the rail network enabling the engineer to identify the point on the network, access track condition data, look for potential problems and, if necessary, raise a work order referencing the exact location.

This is part of Tube Lines delivering an outstanding Tube for London.