

Metrolink awards contract for Tram Safety Improvement Programme to DB ESG

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Transport for Greater Manchester (TfGM) has appointed leading rolling stock engineering consultancy DB ESG to deliver its tram safety improvement programme.

The Rail Accident Investigation Branch (RAIB) recommended that light rail networks deliver programmes to prevent the risk of serious accidents from tram over-speeding or driver inattention following the tragic event at Sandilands in Croydon where a tram overturned.

Metrolink trams are already fitted with a device that applies the emergency brake in the event of a driver becoming incapacitated and the signalling system has several built-in protections. DB ESG working in partnership with Sella Controls, will design, install, test and commission the Driver Vigilance Devices (DVD) and Tram Overspeed Protection Systems (TOPS) to the Metrolink fleet of trams.

To prevent over-speeding, Metrolink's fleet of 147 trams will be equipped with the new systems that will

use GPS and other information to determine the location and speed of the tram.

The system utilises Sella Controls UK Rail approved Tracklink® III and EKE Electronics TRAINNET® technologies to provide the TOPS and DVD System. In the event of over-speeding, the driver will be alerted, and if there is no response the brakes will be applied automatically. The protection system will operate independently of other tram monitoring systems. To ensure drivers remain alert, an upgrade will be applied to the traction brake system and if no movement is detected input will be requested from the driver.

Since the Croydon accident, TfGM and the Metrolink Operator – KeolisAmey Metrolink (KAM) – worked to progress the recommendations and introduced enhancements such as lower speed limits in key areas, additional hazard signage, an improved driver simulator used for training, enhanced medical standards and proactive speed monitoring.

As the largest light rail network in the country, with more than 100km of track and 147 vehicles – which equates to just under half (46%) of the entire tram fleet in the UK – significant work has been done to explore new technology that will help to deliver the more complicated RAIB recommendations. This included use of the Metrolink network to trial solutions on behalf of the newly founded Light Rail Safety and Standards Board.

This meticulous research was used to develop the specifications for the systems that DB ESG will now deliver.

TfGM's Head of Metrolink, Danny Vaughan, said: "The safety of our customers and staff is paramount, which is why we have robust safety and assurance practices built into the design, construction, operation and maintenance of the network.

"Metrolink has an exemplary safety record, but following the tragedy in Croydon – and through the subsequent RAIB recommendations – we have taken steps to enhance this even further and have played an industry-leading role by participating in trials of innovative technology to monitor driver attention and vehicle over-speeding.

"Metrolink is the largest and most complex light rail system in the country, and we've worked very closely with leading industry experts to ensure we get the right solution, and we look forward to working with DB ESG to deliver them."

Nick Goodhand, Managing Director at DB ESG, said: "We are pleased to be working with TfGM to deliver their critical Tram Safety Improvement Programme to implement the RAIB recommendations. The Tram Overspeed Protection System introduces an additional level of safety without impact to the normal service delivery or performance of the tram network."

Rob Nield, Business Development Manager at Sella Controls, said: "Following the successful delivery of the UK's first SIL2 Light Rail Overspeed Prevention System, we are pleased to once again work closely with DB ESG, and newly TfGM, to deliver a solution which further bolsters the already outstanding Metrolink safety record."

Photo credit: Transport for Greater Manchester