

## **Atkins Awarded Cost Efficient Electrification - Contact Wire Uplift Contract by Network Rail**

Atkins – a member of the SNC-Lavalin Group – has been appointed by Network Rail to analyse dynamic behaviours of overhead line equipment (OLE) and develop new OLE designs for future electrification schemes. Using Digital Image Correlation technology, Atkins will analyse the relationship between OLE uplift, OLE system type, train speed and pantograph type, installed at low bridges with low headroom or long width, with twin contact arrangements, and use data to develop new rules for OLE design.

The new rules will be used by OLE designers to reduce route clearance costs, including bridge reconstruction and track lowering, for new electrification schemes. As part of the UK's Net Zero 2050 targets, new electrification is the only viable way to decarbonise core rail routes on the railway network. Bridge reconstructions to create sufficient space can cost up to £1million or account for a third of an electrification scheme's total cost. The ten-month contract intends to result in smaller values of uplift being used, which can potentially convert a bridge reconstruction into a 'no work required' analysis, reducing electrification scheme capital costs.

Malabika Das, project manager, Strategic Rail at Atkins, said: "We're proud to be supporting Network Rail on these new designs to help reduce electrification unit costs and in turn, support the industry's climate and environmental targets."

"These rules of design should, where technically achievable, cover as many types of Network Rail OLE as is reasonably practicable; be based on robust and documented evidence; and strike a balance between conservatism and complexity."

Measurement and data collection will be carried out by the Atkins Digital Image Correlation team which specialises in non-contact measurements in a live rail environment using imaging systems and correlation algorithms. The team has recently measured structural deflections to 0.05 mm accuracy on over 16 locations for a variety of clients. Experience also includes understanding the behaviour of OLE from first principles and the relationship between OLE geometry and dynamic performance.