

Innovative Fibre Polymer Composite Footbridge



Network Rail

Description	Delivering a low-cost, attractive footbridge solution to close railway foot crossings.
The challenge	<p>The aspiration is for a lightweight intelligent fibre polymer composite bridge with a cost of £200K.</p> <p>The design aims to demonstrate that you can have an attractive high-quality structure that people will want yet costs much less than the current footbridge projects. It takes an innovative approach to bridge design, using fibre polymer composites for a structural spine onto which the stair and deck units clamp. This allows a modular approach with low component loads meaning standard track plant can be used.</p>
The solution	<p>The team has taken the concept design to complete manufacture in nine months, trialling different virtual working platforms to foster strong collaboration, risk identification and problem solving. The trial installation is part of the design process to capture learning from the build which can be incorporated into the final design before being installed on the railway.</p>
Benefits of using fibre polymer composites	<p>This will be the first complete fibre polymer composite bridge, sub and super structures, built on the railway which will fully appreciate the benefits of the material, challenging current construction methods to drive down costs and construction time. It will also trial monitoring to extend the service life, identify intervention requirements and record usage, creating intelligent infrastructure.</p>
Further details	Led by Andy Cross, Network Rail - andy.cross@networkrail.co.uk