

Brand new rail tech to ‘pandemic proof’ train travel

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A virtual reality immersive journey planning app for trains and stations could soon make journeys easier by reducing passenger anxiety and helping passengers to understand their journey ahead of travelling.

The technology is one of the winners of the latest round of the First of a Kind (FOAK) competition announced today by the Transport Secretary. This year the competition has been aimed at making the railways cleaner, greener and more passenger friendly.

The Department for Transport, in partnership with Innovate UK, has funded 30 ground-breaking projects with a share of £9 million. The competition is focused on developing pioneering technology and exceptional ideas that can improve journeys for travellers, encourage passengers back onto the network and reducing the environmental impacts of rail as we build back better from COVID-19.

Transport Secretary, Grant Shapps, said: “I am delighted to announce the winners of the 2021 First of a Kind competition. These winners will hopefully play a role putting passengers at the centre of our railways as we build back better from COVID-19.

“The competition always throws up surprises and the ideas shown today could transform how we travel in future.”

The creative problem solving on display in this competition will be further encouraged by the reforms brought about by the Williams Shapps Plan for Rail. The expertise and innovation of the private sector will improve efficiency making it easier and cheaper to plan maintenance, renewals and upgrades’ and unlocking new benefits for passengers.

Winners include a revolutionary app that connects rail travellers to the world outside their window and brings the route to life. As passengers travel the app uses geo-location to immerse passengers in the history and stories of the places they travel through, making even the morning commute a train ride back in time.

Other winning projects include:

- A system to monitor people flow, congestion points and behaviour at stations so operators can remove bottlenecks and deploy countermeasures, helping people avoid crowds and restoring passenger confidence in the rail system post COVID-19.
- A scheme that provides an interchangeable interior train carriage for quick, deep cleaning and allowing operators to re-jig a train's seating layout at short notice. Reacting to demand, keeping passengers safe and freeing up space.
- A project that uses electromagnetism to deliver safe and predictable braking in harsh conditions, whilst improving acceleration.
- A scheme which aims to deliver a train running on hydrogen and a hydrogen gas blend promising low emissions and an even greener railway.

Simon Edmonds, Deputy Executive Chair and Chief Business Officer, Innovate UK, said: “As we move ever closer to getting past the pandemic, passengers are returning to the railway. To give them ever greater confidence that rail is safe and sustainable we called upon UK innovators to come up with fresh ideas. Yet again the response has been fantastic. Not only will passengers benefit from these great innovations but business prospects are bright in this sector too.”

Now in its fifth round, the competition was open to inventors from across the nation, regardless of the organisations size or stature which allows small companies with bright ideas to be recognised.

Previous winners include the LoCe (Less oil, Cleaner exhaust) project that secured £398k in 2020. The project has developed new diesel exhaust technology which reduces the nitrogen oxide emissions by around 80%. The technology has been fitted to a Porterbrook owned Class 170 Turbostar, operated by East Midlands Railway, and has subsequently reduced harmful engine emissions.

Rail Forum Midlands welcomes today’s announcement of the successful bidders for the latest round of InnovateUK First of a Kind (FOAK) funding.

Elaine Clark, CEO, Rail Forum Midlands said: “We are delighted to see that four of the proposals submitted

as part of our Rail Sector Deal SME Challenge on Opportunities to Decarbonise Freight have been successful in their bid for FOAK funding.

“This success demonstrates that the Challenges are providing real opportunities for SMEs and the wider supply chain to work collaboratively with clients to take their ideas from concepts through to the next stages of development. We look forward to seeing the ideas come to life.”

David Clarke, Technical Director at the Railway Industry Association (RIA), said: “Congratulations to all organisations that have been awarded ‘First of a Kind’ funding to develop world-leading innovations across the railway sector. With the First of a Kind initiative now in its fifth round, we hope that many of these past projects are now being picked up and implemented, for the benefit of passengers and freight users.

“Even before the coronavirus pandemic, it was difficult for innovators to secure support and funding to scale up projects so that they could be ready to deploy on the rail network, but now – when many businesses are facing uncertain times following the pandemic – these businesses must have the support they need. So we need to ensure there is no hiatus in decision making for the implementation of projects whilst rail revenue recovers. In fact, now is the time to implement these innovations at scale, as we seek to encourage passengers back and spark an economic recovery across the UK.”

Photo credit: Department for Transport