

# £9m fund opens to railway innovators and inventors

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A new £9 million competition to find cutting-edge ideas set to transform the future of the railways has been launched today, as Rail Minister Chris Heaton-Harris and Innovate UK launched the 2021 First of a Kind (FOAK) competition.

Focused on developing pioneering technology and exceptional ideas which can improve journeys for passengers and decarbonise the rail network, FOAK is now entering its fifth round, with a particular focus on supporting innovations which make the network cleaner, greener and more passenger friendly.

To date, the competition has seen the Department for Transport and Innovate UK invest around £25 million to develop projects including;

- HydroFLEX – the first mainline testing of a hydrogen train
- Inspection drones capable of rapidly assessing the safety of rail infrastructure
- Controlled water addition to remove the notorious problems of leaves on the line
- Concrete slabs that automatically heat up to prevent icy platforms and passengers slipping
- A ‘sound-bending’ wall to minimise the noise of passing trains in urban areas
- Hydrogen-based steam turbines to drive zero-emission, low-noise rail freight

To mark the launch, Rail Minister Chris Heaton-Harris addressed the Rail Innovation Exhibition and reaffirmed the continued efforts that are being made to drive innovation within the rail industry and establish new technologies to build the railway of tomorrow.

Rail Minister Chris Heaton-Harris, said: “This country pioneered the railway, and that spirit of innovation and ingenuity has never been more vital as we look to build back better from this pandemic.

“Our railways will underpin this country’s economic recovery and help realise our ambitions of a carbon neutral future. Through initiatives like the First of a Kind competition, we are investing today to build the railway of tomorrow.”

Simon Edmonds, Deputy Executive Chair & Chief Business Officer, Innovate UK, said: “A greener railway, easier for everyone, with a better experience for users is the aim of this competition. Delivered by Innovate UK, on behalf of the DfT and through the Small Business Research Initiative, it seeks the best and brightest ideas. Innovative companies all over the UK have proved their mettle in previous rounds of this scheme.

“Now we call again for even more fresh thinking to help deliver a better and greener railway that delivers for passengers and freight users.”

Organisations have until March 10th to bid for funding. In 2020 25 projects received a share of £9.4m of funding.

Past winners who have benefitted from investment include ‘HydroFLEX’, who used funding received from FOAK in both 2019 and 2020 to develop the UK’s first full-size Hydrogen powered train to be run on the mainline railway. Transport Secretary Grant Shapps visited the site in September 2020 to see the project, which is now developing the first hydrogen passenger train.

Another previous winner is Seatfrog for their project ‘Train Swap’, enabling passengers to quickly and remotely update their seat reservation to an alternative service, and giving train operating companies the ability to move passengers proactively, managing load across the network. This innovation could help the industry adapt to the pandemic and ensure appropriate social distancing on services.

Dr Stuart Hillmansen, HydroFLEX Technical Lead, said: “It is fantastic to see our early fundamental research on the application of Fuel Cells in the railway sector being implemented, and delivering real benefits for today’s railway.”

James Eyton, Seatfrog Chief Financial Officer, said: “The DfT and InnovateUK are an incredible supporter of

technology startups and scaleups in the UK providing funding to drive innovation which enhances the passenger experience.

“At Seatfrog, this funding has enabled us to fast track our product development of Train Swap delivering the fastest and easiest way to change your train in the UK.”

David Clarke, Technical Director at the Railway Industry Association, said: “It is great to see a further round of funding being opened by the Government to spur innovation in rail. Whether it’s building back better post-Coronavirus, decarbonising or improving the passenger experience, this funding will help the rail sector find new solutions that deliver a better and more effective railway, for the benefit of passengers, freight users and the wider economy.”

*Photo credit: Department for Transport*