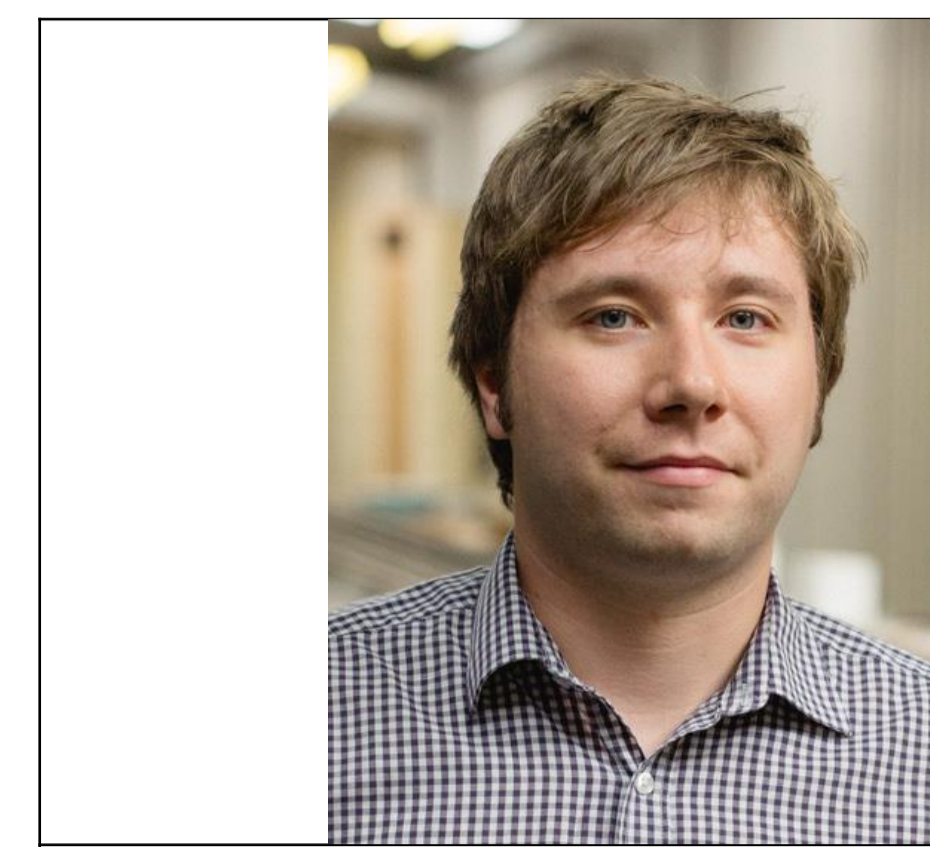


# TRAIN Rig

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## Freight Train Aerodynamics

- Growing divergence between train capability and permitted speeds has created industry-led desire to unlock freight speeds beyond the 75 mph limit.
- Research is being conducted on how to remove traditional aerodynamic barriers to realising the potential of ‘superfast’ freight trains.
- This will allow freight to fit in more seamlessly between passenger services, introducing a step-change in freight operation, performance and opening new rail freight markets.
- This research support themes of decarbonisation and shift2rail.



## Vehicles in Close-Proximity

- Understanding aerodynamic interactions between vehicles in close-proximity is vital to the safe introduction of connected and autonomous vehicle (CAV) technologies.
- Research is being conducted to analyse complex aerodynamic interactions within a platoon, as well as vehicles being overtaken by a platoon.
- This research will enable proper aerodynamic assessment at the design phase, leading to the development of policies, standards and safe working practices ensuring safe CAV introduction.



## HS2 Tunnel Portal Design

- High Speed Two (HS2)’s civil engineering tunnel designs will prevent the emission of audible micro-pressure waves (sometimes known as sonic booms) by the use of perforated tunnel entrance “hoods”.
- Research has been conducted to support the validation of one-dimensional models of tunnel pressure wave development, which in turn are used in the design of strategic infrastructure.
- This research supports themes in decarbonisation, as well as Government strategy on high-speed transport systems.

## Industrial & Academic Partners

