

# “Compelling case” to level up northern economy through rail innovation

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Greater investment in rail research could be used to help level up the economy in the north of England, argues a report by economics and policy analysts [Perspective Economics](#).

The study – [Rail Innovation Eco-System](#) – says there is a “compelling case” for further investment in rail innovation in the region that could drive “...economic recovery, and longer-term industrial advancement and economic growth”.

Commissioned by the [University of Huddersfield](#) and the [University of Leeds](#), it describes a “collective appetite among academia and industry to drive research” with hundreds of companies in the north of England already actively involved in rail industry research, development and innovation – and universities with advanced rail test facilities and expertise and a strong record of collaboration with the rail industry on research.

The call to use rail innovation as a means of economic development comes as the Government makes substantial investments in rail infrastructure through [HS2](#) and upgrades to [the East Coast main line](#), linking London to Yorkshire and Scotland, and [the Transpennine route](#) between Liverpool, Manchester and Leeds.

That investment could amount to £200 billion over two decades. Perspective Economics says the two universities could be the catalysts for future research with additional support from Government, the research councils, industry and Leeds City Region Enterprise Partnership.

Professor Stephen Ingleton, Engineering Director at [Unipart Rail](#), said: “This report demonstrates the huge potential for rail innovation within the region and emphasises the benefit of universities and industry working in partnership. As a company, we have strong research links with the higher education sector, and we are well placed to build on this to deliver benefits both within the region and to the whole industry.”

### **Scale of the rail innovation economy**

Perspective Economics identified more than 2,500 companies in the north of England that were operating across the breadth of the rail industry supply-chain. In 2018, these companies generated more than £42bn in known UK-wide revenues and employed more than 150,000 people.

Around one-fifth were actively involved in research across the rail industry, including in the design and production of railway rolling stock, track systems, remote monitoring and maintenance, digital workflow and safety management, electrification and signalling. Industry research was matched by “broad and deep” academic expertise at the universities of Huddersfield and Leeds.

### **Universities support rail-industry research**

Between them, the two universities have been involved in more than 400 rail research projects, generating around £100 million in research income, of which half came from partnerships directly with the rail industry.

The University of Huddersfield has developed an advanced rail research centre, [the Institute of Railway Research](#). It is a world-leading centre in rail engineering and risk – and research has helped to improve the understanding of the way railway vehicles interact with the track.

The University of Leeds is developing an [Institute for High-Speed Rail and Systems Integration](#) (IHSRSI), which will be one of the most advanced experimental test and development facilities in the world. Building work was started but then paused with the arrival of COVID-19 in the UK – and the timing of the construction of the IHSRSI research and testing facilities will be influenced by the ongoing COVID-19 pandemic.

Both universities can draw on wider research knowledge from disciplines including materials, robotics, data analysis, artificial intelligence, mechanical engineering, and advanced manufacturing.

The analysis by Perspective Economics says the “...universities offer a broader set of highly complementary research, development and innovation facilities and expertise that makes them well placed to deliver large scale, complex multi-disciplinary research and innovation projects”.

The report recommends that the universities of Huddersfield and Leeds work together as “a catalyst for rail research and innovation” – by extending industrially relevant collaborative research and identifying

opportunities to secure regional and national funding for rail projects.

The two universities have signed a joint statement where they pledge to collectively support regional economic development through rail research.

Professor Andrew Ball, Pro Vice-Chancellor, Research and Enterprise at Huddersfield, said: “These are very exciting opportunities presented in this report and the significant potential for rail innovation that can be driven by our two universities working collaboratively with industry and our public sector partners to deliver transformative growth in the region.”

Professor Nick Plant , Deputy Vice-Chancellor: Research and Innovation at Leeds, said: “By leveraging combined industrial, research and innovation strengths for national and regional benefit, there is a unique opportunity for the industry to be a catalyst for economic recovery and one that can make a significant contribution to making the UK’s levelling-up agenda a reality.”

The rail industry supply chain has been identified by Leeds City Council and Leeds City Region Enterprise Partnership as a sector that could strengthen the economy in the Leeds City Region and lead to the creation of new high-quality jobs.