

HSRIL response to the Industrial Strategy Green Paper

Executive Summary

1. High Speed Rail Industry Leaders (HSRIL) is a new, open, UK-based grouping of major businesses that have a capability in high-speed rail.
2. The Government's investment in HS2 is hugely welcome and of great importance. It is perhaps the most important public investment project in the UK for decades, and as such a key part of the Industrial Strategy should be to take advantage of the opportunities it affords.
3. These opportunities sit in two principal areas:
 - The huge improvements in connectivity between many of Britain's largest cities offer the opportunity to transform regional economies and drive productivity growth. Indeed, we believe High Speed Rail is the only way to rebalance the economy and take pressure off the south east.
 - The investment in the sector which HS2 delivers offers the opportunity to create a high value growth sector in the global growth area of high speed rail, here in the UK. We need to begin to view the UK's expertise in rail and construction, and in particular in high speed rail, as a potential export sector.
4. In order to take advantage of these opportunities, we recommend the following:
 - We should explore the creation of a "HS2 International" which brings together HSR delivery businesses and the government-owned client body HS2 Ltd to create a public-private partnership to market the UK skill base and experience abroad, offering a whole exportable package to potential customers.
 - In a post-Brexit world, we believe that common standards are vital to opening export markets and are a key enabler of productivity. It is vital therefore that UK suppliers continue to contribute to the development of European and international standards, ensuring that UK manufactured products do not require extensive rework and testing for export. If standards diverge in future, non-tariff barriers will be created and manufacturers will have the unwanted cost of operating in different jurisdictions.
 - As in other industrial sectors, critical to private sector investment is the ability for business to take a long-term view. Whilst HS2 offers this to an extent, we believe the Industrial Strategy should commit to HS2 being only the start of the delivery of a wider high speed rail network in the UK. This commitment alone will allow greater private sector investment and the more efficient delivery of HS2 itself.
5. These advantages will only be maximised by Government and the Industry working very closely together. On behalf of the industry, High Speed Rail Industry Leaders commit that the sector will do all it can to work with and support the Government in respect of the Industrial Strategy and high speed rail.

Introduction

High Speed Rail Industry Leaders (HSRIL) is a new, open, UK-based grouping of major businesses that have a capability in high-speed rail. HSRIL coordinates and shares the expertise and experience within the industry and helps to guarantee that Britain's national high-speed rail network is delivered successfully to world class standards and leaves a legacy for growth and jobs and skills. We believe it is for industry to come together to address these challenges. This response has been developed with input from across our membership, details of which are listed at Annex A.

HSRIL consultation response

We have read the Department of Business, Energy and Industrial Strategy's Green Paper with great interest, and agree that the "10 pillars" are the right ones to tackle low productivity and unbalanced growth. We also support the RSG/RIA response to the Green Paper, which offers further evidence on the scale and importance of the rail supply chain.

In the interest of brevity, rather than respond to every question, we have distilled the important points into this short document. For ease of reference we have noted the related consultation questions against each section.

1. Cornerstone government investment (consultation questions 5, 8, 9, 34)

1.1 HS2 represents the largest investment by government in the nation's infrastructure. A key aim is to provide better connectivity across the nation to help to address the challenge of improving productivity across multiple industrial sectors. HS2 therefore represents a cornerstone government initiative that should be recognised as a major contributor to the new Industrial Strategy. Its arrival will help many businesses in many growth sectors.

1.2 In our highly developed and specialised economy, rail is driving the employment growth in city after city. The connectivity benefits from HS2 over the next 16-17 years will flow to the target growth area of knowledge-based industries¹. As DfT has noted:

"Knowledge-based industries contribute disproportionately to the success of the UK economy – providing 18 per cent of all jobs, but delivering 23 per cent of national output and 34 per cent of exports. Knowledge-based jobs tend to be located in city regions and city centres, where there is good access to specialised labour and good opportunities for creative interactions between businesses."

1.3 Research and tech industries cluster around activity hubs – as is already observable at Kings Cross/St Pancras which includes the HS1 terminus. We expect similar outcomes to be realised in other locations where HS2 stations and major new development areas are planned², with characteristics that in each place build on existing city-region economic sector strengths.

¹ Command Paper 9157 High Speed Two: East and West. The next steps to Crewe and beyond, November 2015

²These include locations in Birmingham, Solihull, the East Midlands, Sheffield, Crewe, Manchester and Leeds. The same could also be expected at locations where HS2 services will operate from existing stations such as those at Preston,

1.4 High-speed rail is the only way to provide sustainable mobility and the connectivity needed to support a re-balancing of national economic growth, take pressure off the South East and stimulate the regional (and devolved national) economies.

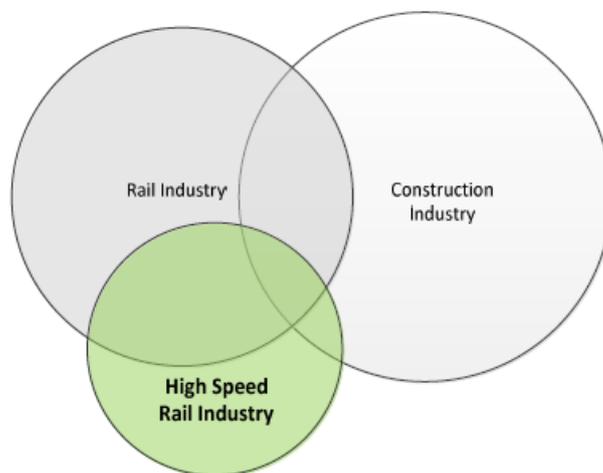
2. Creating a major new industrial growth sector (consultation questions 25, 31, 33, 36, 37, 38)

2.1 The greatest prize that HS2 offers, by virtue of its scale and its transformational service and technical requirements, is the regeneration of two overlapping long-established UK sectors that offer a huge potential for employment and export-led growth. This opportunity is driven by high rates of growth and record levels of passenger and multi-modal freight traffic in the UK. This is what drives the need to expand the capacity and capability of the national rail network. And it means a fresh opportunity to create British-based export industries.

2.2 The industry growth opportunities from HS2 are in:

the rail sector – which in the UK currently lags its sister automotive and aerospace sectors in terms of production statistics – despite the leading performance of rail in terms of growth, intensity of use and customer satisfaction (as measured at pan-European levels)

the construction sector – where HS2 creates challenges that can be used to create world-leading expertise in digital design and project oversight (BIM); in pre-fabrication applications; in the use of high-output equipment; and in specialist areas that the country already has a strong reputation such as architecture, structural design, and tunnelling techniques. High-speed rail could provide a new gold-standard for building in digitalisation into long term assets (and their management).



High-speed rail will drive innovation and improvements in all three of these (overlapping) areas.

Carlisle, Liverpool, Glasgow, Edinburgh, Newcastle, Darlington and York. Other places on existing busy main lines such as Milton Keynes and Doncaster will be able to gain better rail connectivity, with fewer non-stop trains and more valuable connections.

- 2.3 We believe that rail can form a high-value growth sector like aerospace and automotive because growth in rail demand in the UK is unmatched elsewhere in Europe. HS2 adds capacity to the national network and creates demand for more train capacity (both high-speed and conventional). It forms a magnet to international rail suppliers. But Government has made clear that with HS2, suppliers need to leave a UK foot-print, and we support that policy. We see HS2 providing the basis of a re-born rail sector, creating the basis for a fresh wave of UK exports.
- 2.4 To this end, we believe that it would be right to plan right at the outset for an *HS2 International* that draws together the expertise created in HS2 Ltd and in the supply chain in the creation and delivery of the HS2 project. It can be used to lead a major high-speed sector export drive, not just on an advisory basis but with the capability to supply projects on a turn key basis, with finance and ongoing support: a “whole exportable package”. HS2 International would be a company – potentially a public-private partnership – created to offer the skills and services developed in the construction of HS2 for export purposes. This would allow HS2 not just to benefit the UK when it is built, but to create a legacy of exports which supports the sector for generations to come. HSRIL can support in coordinating efforts to develop the concept of HS2 International (or similar) to promote the export of these for the benefit of the UK.
- 2.5 Reflecting the views of the Rail Delivery Group, we believe that common standards are vital to opening export markets and are a key enabler of productivity. It is vital that UK suppliers contribute to the development of European and international standards, ensuring that UK manufactured products do not require extensive rework and testing for export. For example, EU work on interoperability around trackside and in-cab technology solutions has made exporting common products, technologies and skills into Europe significantly easier and enabled UK total rail systems providers to compete in this arena. If standards diverge in future, non-tariff barriers will be created and manufacturers will have the unwanted cost of operating in different jurisdictions.

3. Innovation (consultation questions 6, 25, 26, 36, 37, 38)

- 3.1 To this end, we believe that it would be right to plan right at the outset for an *HS2 International* that draws together the expertise created in HS2 Ltd and in the supply chain in the creation and delivery of the HS2 project. It can be used to lead a major high-speed sector export drive, not just on an advisory basis but with the capability to supply projects on a turn key basis, with finance and ongoing support: a “whole exportable package”. HS2 International would be a company – potentially a public-private partnership – created to offer the skills and services developed in the construction of HS2 for export purposes. This would allow HS2 not just to benefit the UK when it is built, but to create a legacy of exports which supports the sector for generations to come. HSRIL can support in coordinating efforts to develop the concept of HS2 International (or similar) to promote the export of these for the benefit of the UK.

- 3.2 HS2 requires the application of leading-edge technologies on train control systems and in customer facing facilities. Applications of digital control technologies in rail can be advanced faster and more readily than in private cars, as has recently been recognised by the House of Lords³.
- 3.3 As part of the nation's industrial strategy, we want to create a major new R&D facility that can act as an anchor and hub for this fast growing and high-opportunity industrial sector. We already have Europe's largest rail business and research cluster in the East Midlands and another cluster in Yorkshire/North east.
- 3.4 To support the development of high-speed railways in the UK, particularly High Speed 2, the University of Leeds has recently formed the Institute for High Speed Railways. This new institute will form an economic innovation hub for the City of Leeds and will concentrate on train-track interaction, infrastructure systems and digital integration to de-risk high-speed rail development in the UK.
- 3.5 HSRIL welcomes the Chancellor's recent budget statement that allocates £270million to put the UK at the forefront of disruptive technologies such as robotics and artificial intelligence. Many aspects of High Speed Rail construction will benefit greatly from developments and applications in these fields. Encouragement and funding from Government for academic and industrial collaboration that automates and digitises construction will further develop and exploit the UK's world-leading BIM strategy. It will save considerable sums of public money in both construction and future maintenance, enhancing productivity whilst strengthening the international capabilities of the UK's construction sector.
- 3.6 The Industrial Strategy Challenge Fund (ISCF) represents a very welcome Government investment in innovation, building on the existing work of Innovate UK. We would urge the Government to ensure the ISCF considers a broad range of challenges and opportunities for the UK economy, and looks at funding work which can improve connectivity and transport links which have a demonstrable ability to catalyse regional economic growth.

4. Investment and Procurement (consultation questions 15, 16, 17, 23, 24)

- 4.1 As in other industrial sectors, critical to private sector investment is the ability for business to take a long-term view. HS2 offers the prospect of achieving this, since it requires investment over the next 16 years. But businesses need to know it won't end there and that Government supports an overall national high-speed strategy through to 2050. Industry requires a long-term view (from government) and a commitment to orders – the HSR proposition should form the backbone of the transport system. Zero value frameworks haven't worked in terms of stopping hiatus during control periods.

³ See House of Lords report on Connected Autonomous Vehicles, HL Paper 115, March 2017
<https://www.publications.parliament.uk/pa/ld201617/ldselect/ldsctech/115/115.pdf>

- 4.2 Higher productivity in this sector will rely on private sector investment. Much can be done to achieve this. It would be better, where possible, to diversify and devolve the commissioning agencies away from central Government – for instance to Transport for the North as and when it becomes established and with its own budget allocation. For major rail sector suppliers in the metro/suburban rail sector, the existence of Government and Transport for London as key clients ensures there is not a monopolistic customer base.
- 4.3 It should be recognised that the level of political risk during the planning stages of projects is critical – and Government has not shrunk from the responsibility this implies with HS2. Moving into the delivery stage, the private sector will play a bigger role. It can procure new trains, for example, much more rapidly – and to just as rigorous standards – as does Government. This could be achieved through the planned West Coast Partnership, securing the investment off the Government balance sheet. The availability of such investment vehicles has been pioneered for the rail sector in the UK and it can be extended much further. This and a string track record in the use of PFI models can form part of the HS2 International offer identified above.
- 4.4 There is a mismatch between the lengthy phased implementation of HS2 and the rail industry control periods which last 5 years – yet investments need to be matched across the existing and new (high-speed) rail networks (since the high-speed trains operate over both). Government should demand that the rail sector creates a long-term plan and, through the National Infrastructure Commission, commits to protecting it through successive parliaments.
- 4.5 The nation’s infrastructure and industrial strategies can be joined up to mutual advantage. Indeed, the scale of the jobs and skills requirement is such that it would be irresponsible not to do so.

5. Jobs (consultation question 14)

- 5.1 An independent analysis was commissioned by HSRIL to look at HS2 contracts already issued, which included the programme for the coming years, and considered both direct roles at HS2 Ltd and throughout the supply chain. By looking at both the project and the supply chain, it represents the most robust analysis yet of the employment impacts of the HS2 project. The analysis shows that by 2020, 26,650 people will have worked on the HS2 project throughout the supply chain⁴. Two-thirds of these roles will be in construction, with the remaining one-third made up of designers and management roles. By 2020, HS2 will employ more people than any other infrastructure project in the UK. Of these jobs, more than half (some 14,400) will be created by the contracts already out to tender from HS2. The findings of this report demonstrate the importance role that HSR can perform as a driver of employment benefits to the economy.
- 5.2 In procurement, incentivisation can be a key factor – and not just use of local labour, but also on combining logistics/ plant sharing across multiple project stages. There is a bias in HS2 Ltd’s procurement requirement for non-UK experience, which some UK companies don’t have. Part of the

⁴ [High Speed Rail Industry Leaders Training and Employment Opportunities Report 2016](#)

HSR procurement offer could be to take UK companies overseas through the HS2 international proposal. None of this need broach EU procurement rules. Indeed, retaining global and European standards is essential to keeping the cost base low and establish the basis of future exports. The industry wishes to remain compliant to these standards.

6. Funding (consultation questions 18, 19, 20, 22)

6.1 More and different investment vehicles are required to support private investment in infrastructure and high-speed rail operations. In the rail sector, private sector investment *has* worked. The re-classification of Network Rail has unfortunately removed a substantial area of off-balance-sheet funding. This needs to be replaced and, again, HSR provides an opportunity to do so. The successful concessioning of HS1 represents one of several possible models that could be applied to HS2 in due course. This means that with a long term, multi-stage programme, it should be possible to progress to a situation where over a 3-5 year period HSR returns as much cash to HM Treasury through concession lets as it consumes (in funding next stage development).

6.2 Plans to work together to implement measures to achieve a 3-hour HSR journey time between London and Glasgow/Edinburgh were agreed by Westminster and Holyrood Transport Ministers in Spring 2016. This would build on the HS2 plans in the southern half of England, but so far, no plans have been developed that get anywhere close to achieving this aim.

6.3 In the absence of a clear plan to achieve this target, HSRIL proposes that a competition is let to find the best value solution towards achieving this 3-hour goal through a major new challenge fund. This would include technical solutions and funding & financing proposals to achieve journey time and other objectives on the lengthy route between the northern limit of HS2 and the central belt of Scotland. And it comes at a time when there is great pressure on Network Rail's budget. We are confident that the private sector will welcome this opportunity to develop proposals.

7. Skills (consultation questions 13, 19, 22)

7.1 The conditions are ripe for investment in training, research and development and skills uplifts with HS2 acting as the beacon for innovation and productivity enhancement across the sector. HS2, and subsequent high-speed rail developments that should follow it, provides connectivity and capacity that enables the UK economy to grow and become better balanced (across sectors and geographies), stimulating investment in the private sector, and connecting people with jobs and opportunities for education⁵.

7.2 As well as delivering HS2 itself, these new skills can help build the UK as a centre of excellence and help nurture our position as an exporter of the skills needed to build high speed rail at a time when it is a growing sector across the world. It is expected that 2,000 new apprenticeships will be created at the NHSRC to meet demand for jobs. In addition, major employers in the railway systems, rolling stock and civil engineering sectors will have their own apprentice programmes, from which staff will be drawn to fill HSR related jobs.

⁵ <http://www.rail-leaders.com/great-britain-connected-or-not-2/>

- 7.3 Investment in high speed rail presents a truly unique opportunity to build the skills that will be necessary for global Britain to be successful after it leaves the European Union. HS2 itself brings tens of thousands of job opportunities. But to maximise the benefit for the UK, it is essential that we use this opportunity also to build specialist skills and expertise across the country.
- 7.4 HSRIL believes that it is simply not enough to muddle through and deliver HS2 and then pack up and go home. The true legacy of high speed rail will be in developing skills within the UK workforce than can command a place in a competitive post-Brexit world after HS2 is open for business.
- 7.5 The conditions are therefore ripe for investment in training, research and development and skills uplifts. By committing to a vision of further high speed rail developments beyond HS2, the Government will support those skills long-term. HSRIL believes it is vital that such a long-term vision is set out to allow the private sector to commit to the training necessary to achieve these benefits.
- 7.6 Looking at HS2 alone, at the peak of construction HS2 expects more than 24,000 people to be working on the project. The rail industry clearly needs to recruit and train a lot more people to achieve those numbers. In 2013 only 51,000 engineers graduated from British universities and higher education institutions. But it is estimated that the UK needs 87,000 graduate engineers a year already. In the rail industry, this problem is even more acute with many people expecting 20% of UK rail engineers to retire in the next decade.
- 7.7 It is therefore essential that we move fast to leverage the investment in HS2 to produce the domestic engineers, technologists and software specialists that will build not just HS3, 4 and 5 – but a wider renaissance in engineering and technical prowess for the country. The industrial strategy should therefore support the Rail Sector Skills Strategy along with similar strategies in other sectors, and encourage cross fertilisation. We are not seeking exclusivity for rail: many of our challenges are common across the tech and engineering industries. We are putting up HS2 as a flagship opportunity to attract and build the skill base the UK needs across a number of overlapping fields of expertise in engineering and technical; design, marketing and delivery.
- 7.8 The new National College for High Speed Rail (NCHSR) is vital to delivering a skills uplift in the rail sector and the industrial strategy should support colleges like this across the UK directly, and reward and recognise private sector organisations that contribute to their success. We also want to see a focus on next level skills from HS2, NCHSR and across the industry, by encouraging the uptake of BIM and digital signalling. Because investment in high speed rail is necessarily at the cutting edge of technology, it can push up the competency in these high-tech areas across not just the UK rail sector, but the wider economy.

8. Beyond HS2

- 8.1 The investment that the private sector needs to make to deliver HS2 cost effectively to the highest standards risks being wasted in the absence of a wider joined-up industrial and infrastructure strategy that:
- Seeks to create a new export industry based on the whole package of skills that HS2 entails
 - Provides a long-term programme to extend high-speed rail in Britain so that all regions across Britain gain from both the enhanced connectivity high-speed rail brings and from the increased transport capacity it offers for commuter rail services and for railfreight.
- 8.2 The industrial strategy should therefore encourage a commitment to a wider network of high speed rail. This will give the rail sector the confidence it needs to continue to invest in skills and technology

in the UK. Already many rail companies are investing in high tech capabilities in Britain, but the knowledge that there will be a firm pipeline of opportunities will encourage further investment in the UK.

Annex A: HSRIL Members (at April 2017)

Full members

AECOM, Bechtel, Atkins, WSP/ Parsons Brinckerhoff, CH2M, RIA, Siemens, Hitachi, Alstom, Fluor, Costain, Laing O'Rourke, CEK, Bouygues Construction, Skanska, Balfour Beatty Vinci, Fusion JV, Colas Rail

SME members

Mechan, Idom Merebrook, Furrer & Frey, Weston Williamson