

## HS2 Skills and Supply Chain Strategy Summary

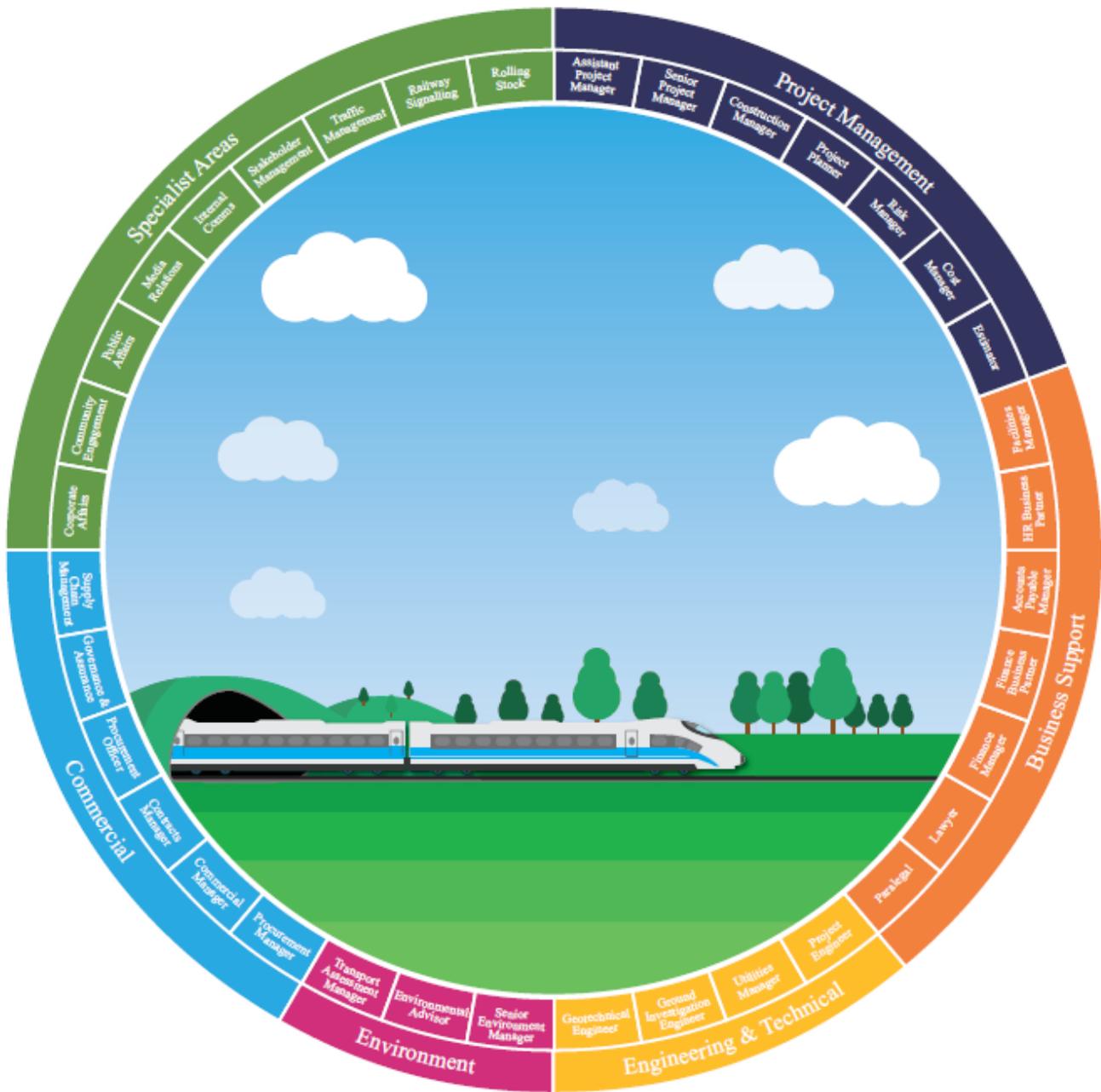
This document, developed by Arup in consultation with partners, summarises how the Leeds City Region is proposing to truly accelerate its development as a national and international centre of excellence for skills and supply chain expertise in High Speed and Light Rail in the UK, achieving a position of global competitiveness and driving the UK's Industrial Strategy. It includes:

- our offer to Government: what we are going to deliver, how we will do it, and the evidence base for developing these propositions;
- how our interventions are going to build on existing assets and practice in the city region and elsewhere; and
- how HS2 will help us go further and faster in realising our vision, and what we need from our partners at the local and national level to help achieve this.

While programme management of the strategy's implementation will sit at the Leeds City Region level, we believe that there is a genuine need for a pan-Northern Transport Skills Taskforce to:

- Ensure alignment and maximise economies of scale in the development and delivery of skills and supply chain interventions across all Northern regions;
- Facilitate a regular dialogue between industry and education on skills needs and infrastructure demands (including a project pipeline), enabling the skills system to be more responsive to the needs of projects, complemented by the use of delivery agreements with providers;
- Speak with one voice to Government and other key partners, such as HS2 Ltd, on shared issues;
- Ensure the integration of strategy relating not only to HS2, but to Northern Powerhouse Rail, and the potential for HS3.

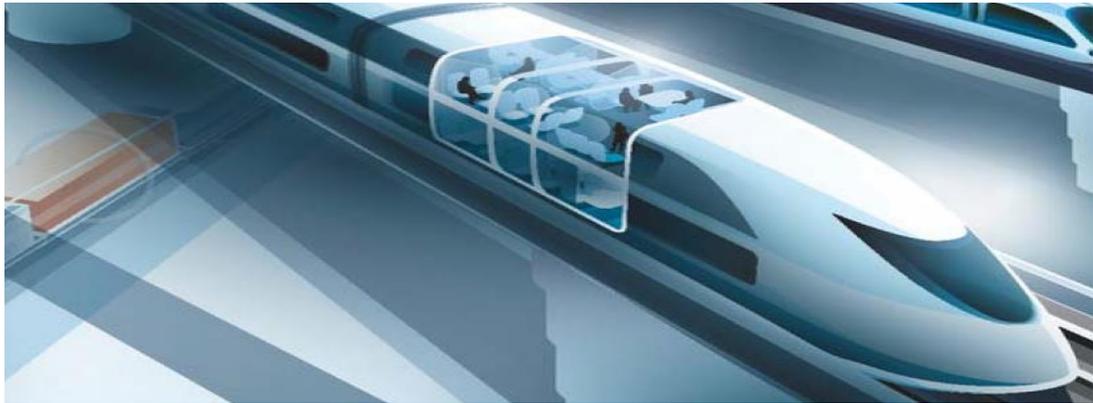
A similar call is emerging from the Transport for the North Skills Strategy, and our proposition is made in partnership with TfN. We welcome dialogue between Government, TfN, the Leeds City Region, and other northern city regions, to take this further.



HS2 Opportunities Diagram

Our offer, and why we are making it	What will we do?	How we will build on existing practice, locally and nationally	Further and faster through HS2: what is needed from partners
<p><b>We will ENTHUSE AND EXCITE a new generation of engineers, technicians and other professionals, attracting young people to the HS2 and transport infrastructure workforce in record numbers, through our <i>HS2 Careers Insight and Careers Pathways Programmes</i></b></p> <p>HS2, and other infrastructure schemes, are facing a cliff wall of an ageing workforce and insufficient new entrants to industry. Skills shortages and gaps are being reported, and forecast, across all relevant sectors.</p> <p>Quality careers information and guidance plays a critical role in inspiring and preparing young people for the world of work and in meeting the above ambition.</p>	<p>We will develop the LCR HS2 Careers Insight programme and deliver to every primary and secondary pupil in the LCR. Elements of the programme could include:</p> <ul style="list-style-type: none"> <li>• Development of curriculum materials and teacher CPD</li> <li>• HS2 Ambassadors (with an emphasis on inclusivity and diversity)</li> <li>• Careers events</li> <li>• Promotional materials including ‘What Could I Be HS2?’ to share with pupils from Yr7 up, becoming more focused and specific reflecting opportunities for study, qualifications etc</li> <li>• Deployment of HS2 Careers advisers</li> </ul> <p>The programme will deliver four interactions to every pupil, in primary, year 7,8, year 11, and year 13</p> <p>The Programme will also encourage improved links between industry and schools in the shape of insight days, work experience/placements, and project challenges. A particular focus will be promoting apprenticeships as pathways into the HS2/transport infrastructure workforce.</p> <p>The HS2 Careers Pathway project will develop a mapping of the various pathways into and through the HS2 Careers Family - including the various qualifications, progression routes, institutions of study, and so on. This material, possibly taking the form of both an online and physical tool/toolkit would be made widely available in schools as part of CEIAG materials. Partners in employment support functions might also use it to refer to when working with adults looking for work/changing roles.</p>	<p>The programme will provide additionality to existing LCR/CEC Enterprise Adviser activity which currently only reaches secondary schools, and where the standard intervention is two episodes per pupil.</p> <p>We will also build on the legacy of recent and current projects such as #techgoals and the ESIF Future Jobs Programme, both of which have/are addressing careers education in sectors relevant to HS2, and the development of enhanced provision of enterprise education activity in the Bradford Opportunity Area.</p> <p>The LCR already shares LMI with education providers including schools, and this provides a firm platform for extending this with a focus on HS2/transport infrastructure.</p>	<p>The careers education system is failing. We seek Government support to rebalance the demands on schools towards a greater focus on preparing for the world of work. We also seek clarification on Govt’s intentions towards current ESIF activity and future funding.</p> <p>We want the Careers Enterprise Company to co-invest to extend the LCR Enterprise Advisor Programme. The standard EA intervention is two interactions per pupil, our proposal offers clear additionality to this standard.</p> <p>We seek HS2 Ltd’s support in sharing their careers education plans and materials so that we can complement their provision, while reflecting the opportunities in the LCR labour market. We are open to working in partnership with HS2 Ltd to deliver careers insight in LCR schools.</p>

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<p><b>Develop new and stronger pathways into the rail and transport infrastructure industry for graduates, career changers, and returners to work through our <i>Graduate Retention/Bursary Programme</i></b></p> <p>Evidence suggests a proportion of graduates in engineering subjects do not pursue career opportunities within the engineering industry or similar. There is also a net outflow of graduates aged 22-30 from Leeds to the rest of the UK (although this is reversed for other age ranges and the city actually has a net gain). It is also the case that the labour market shortages in engineering and infrastructure are unlikely to be resolved simply through graduate retention work, and attracting career changers/switchers is also a potential source of new entrants to the workforce.</p>	<p>We will develop a collaborative programme involving the public and private sectors to retain graduates in HS2 related disciplines within the LCR and specifically in the HS2/transport infrastructure workforce. We will support employers to engage with students to make them aware of career opportunities, as well as facilitating a bursary/sponsorship scheme for student placements into industry, and sponsorship of studies.</p> <p>We will also encourage the development of career switch courses, alongside traditional provision, and create career change bursaries with a focus on enabling individuals particularly from disadvantaged backgrounds to enter the workforce.</p> <p>We will explore the development of a sector specific 'skills passport' (similar to that developed for the nuclear industry, the NS4P) to provide all employees and contractors within the rail sector, including those from large employers and SMEs, with a physical record of their industry specific training and qualifications that meet the agreed sector standards, and provides the sector with a standardised approach to skills assessment, development and recognition</p> <p>We will explore the development of a visa scheme for skilled non-UK entrants to the workforce.</p>	<p>We will build on the already strong links between industry and education, expanding provision such as the #InLeeds programme.</p> <p>We will build on existing 'bootcamp' provision in sectors such as digital to inform our approach, and the development of digital bursaries in the LCR.</p> <p>Learn from the experience of the NS4P</p>	<p>Our education partners can support through maintaining and increasing their focus on graduate destinations and the mechanisms to support this while students are studying. Increased employer engagement, in a coherent and coordinated manner across the LCR, will help employers to identify the most appropriate provision/provider for them to work with.</p> <p>We will seek match funding for bursaries from employers, and their investment in student placements and sponsorship of studies.</p> <p>Support from Govt for the adoption of a similar skills passport approach to N4SP</p> <p>Support from Govt to explore a visa scheme for skilled non-UK entrants.</p>



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<p><b>Meet our commitment to achieve inclusive economic growth, where all of our residents have the opportunity to increase skills levels, access higher volumes of better opportunities, and progress within the labour market, and deliver record levels of local entrants, female and BME representation in the workforce through our <i>Employment Brokerage Plus Programme</i></b></p> <p>Major development and infrastructure schemes, with significant recruitment needs, offer the opportunity for local people to enter into the workforce. HS2 also offers a particular opportunity to deliver a stepchange in the representation of currently underrepresented groups in the HS2/transport infrastructure industry and improve the diversity of the workforce</p>	<p>The LCR is currently developing a proposition to create an Employment Brokerage service, linked to major infrastructure schemes, procured through WYCA (in particular the West Yorkshire Transport Fund).</p> <p>We will scale up and tailor elements of the Employment Brokerage service to focus on the employment requirements for HS2, including the development of an integrated multiagency employment ‘one-stop-centre’ (OSC) linked to other gateway centres, to provide comprehensive advice guidance and counselling for employment, training and enterprise opportunities related to HS2 construction and operation. In this way it will show clear additionality from HS2, going further and faster than the standard model being developed, and reflecting a direct ambition to develop the HS2 workforce of the future from within the city region.</p> <p>The OSC will provide the employment brokerage service for HS2, including building a ‘talent pool’ of candidates for roles across the HS2 family. This is an important variation on the currently proposed LCR Employment Brokerage service model. The OSC will be the ‘go to’ facility through which HS2 related vacancies, work experience and customised training opportunities will be advertised. T1 and T2 contractors and others will be encouraged to promote their opportunities through the OSC and supply chain companies will be encouraged to use the OSC to fulfil their recruitment needs.</p>	<p>The LCR is already recognised as a home of good practice when it comes to connecting local people to employment opportunities through major developments. We are building on local expertise through the development of the Employment Brokerage service, which initially will focus on construction and infrastructure.</p> <p>We will learn from schemes such as Crossrail and others which are demonstrating positive outcomes for local people.</p> <p>We will build on our existing strong relationship with DWP to ensure a joined up approach to employment advice and recruitment activity.</p>	<p>While the CR is bringing forward a funded proposition for the Employment Brokerage service, additional funding will enable us to develop an HS2/transport infrastructure specialism as part of the service through expert staff.</p> <p>Maximum impact from this programme can only be achieved if the procurement of the build and operation of HS2 in the city region is aligned to the service and contractors are asked to work with the service. We will work with HS2 Ltd to support the process of employment and skills obligations through procurement of the scheme, putting our Employment Brokerage Plus service at the disposal of HS2 Ltd and its contractors to connect them to the local labour market and to target groups within it.</p>

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<p><b>Support our education providers to develop innovation expertise and curricula that are global best in class through a Rail and Transport Infrastructure <i>Catalyst Fund</i> for both further and higher education</b></p> <p>While our education providers are already offering and developing exciting and market leading courses and innovation facilities, we want to support them to extend the scale and calibre of this proposition to help position the CR as the UK home of Light Rail and High Speed Rail engineering and R&amp;D</p>	<p>In order to support both skills development, particularly at higher levels, and innovation we will deliver a funding competition for education providers to develop new curriculum and innovation assets aligned to rail and transport Infrastructure. This will support the city region to develop its workforce and innovation potential, and is also aligned to DIT priorities for trade and investment.</p> <p>The Fund will run over three bidding rounds, in 2019/20, 2021/22 and 2023/24</p>	<p>This proposal follows approach of the HEFCE Catalyst Fund, although we are proposing that it is not limited to solely HE provision</p> <p>We will encourage collaborative bids between providers, and employers, to support the development of collaboration around the HS2/transport infrastructure sector</p> <p>While this Fund would look across the spectrum of qualifications, apprenticeships and degree apprenticeship development would be of particular interest. Go Higher West</p> <p>Yorkshire has submitted a bid to HEFCE's Degree Apprenticeship Development Fund,</p> <p>in order to strengthen the Degree Apprenticeship offer in the region. The bid included building services / engineering.</p> <p>We expect a call for bids for Institute of Technology funding in late 2017. There may be an opportunity to align to this programme.</p>	<p>We are seeking Govt support to engage with HEFCE to extend the Catalyst approach/envelope to fund this programme</p> <p>DIT/Innovate UK may also be able to facilitate the specification and funding of this programme</p>

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<p><b>Become the UK centre for high speed rail engineering, with our supply chain achieving a position of international competitiveness, and beyond this, position the city region as the new UK home of transport and transit innovation, through <i>Supply Chain Development and Accelerator Programmes</i></b></p> <p>With HS2 holding great potential for supply chain growth, initial indications are that the understanding of the potential opportunities from HS2 is variable. While another project seeks to raise awareness and visibility of the commercial opportunities, it is also the case that even where awareness is good, LCR businesses, particularly SMEs, may be constrained from fully accessing or competing for opportunities due to a range of internal and external challenges including the procurement process/scale and the need to partner other businesses.</p> <p>We will support a subset of our supply chain to move to a position of global competitiveness in the HSR/transport infrastructure market, taking us from good to great</p>	<p>Working with HS2 and other partners, raising awareness about opportunities through a programme of briefing days/ market soundings/LCR roadshows and meet the contractor events to be agreed,; encouraging businesses to identify the barriers which constrain businesses from fully accessing/competing for opportunities e.g. understanding the procurement process/scale and the need to partner other businesses; provision of bespoke advice and guidance on HS2 readiness from business support specialists, possibly supplemented by advice/mentoring from HS2 primes; enable companies to become “HS2 ready”.</p> <p>The proposal also involves linking the HS2 portal with with LA, public and University sector partners to enable essential information and up-to-date key messages to reach as many potential supply chain companies as possible. The portal would provide information about how to tender and other support available to enable supply chain companies to be “HS2 tender ready”.</p> <p>The HS2 Supply Chain Accelerator Programme, would identify potential businesses which by offering targeted support could make a significant contribution to both the HS2 project and local economic opportunities.</p> <p>Elements of the programme could include:</p> <ul style="list-style-type: none"> <li>• Business diagnostics aligned to HS2 readiness and potential commercial opportunities</li> <li>• Bespoke advice and guidance on HS2 readiness from business support specialists, possibly supplemented by advice/mentoring from HS2 primes</li> <li>• Grant funding scheme to support specific investments (skills, capital investment in plant and machinery etc) which would enable businesses to accelerate and enhance their capacity to engage in the supply chain</li> </ul>	<p>The proposed programmes build on a long history of supply chain development activity in the CR and further afield, as well as HS2 Ltd’s own supply chain promotion and support.</p>	<p>Innovate UK and the Department for International Trade to align funding and promotional activity to this new centre of excellence in these industries</p> <p>Work with the HSRIL, DIT, LEP, WYCA, Rail Supply Group and BEIS/ Government to 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.</p>

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<p><b>Accelerate the innovation potential of the city region and the north through the development of the <i>Institute for High Speed Rail and Systems Integration</i></b></p> <p>Accelerating the uptake of innovation and emerging technologies and building the LCR and UK supply chain capabilities will play an important role in maximising the rail sector's growth and export potential. The Institute for High Speed Rail and Systems Integration (IHSRSI) responds to an identified need for HSR research into infrastructure and rolling stock, a gap in key facilities in the UK, and the opportunity to drive capability through a world leading facility in the LCR. The institute would further drive the development of the supply chain, encouraging inward investment and growing export potential. It also offers the potential for 'spin-out' commercialization.</p> <p><b>A future phase of the IC could support the testing of facilities such as Maglev; hyper loop; pick-up coil technologies; hydrogen cars and electric/battery systems.</b></p>	<p>Support the establishment and physical development of the Institute.</p>	<p>The City Region's HE and FE base is already rich in rail and transport infrastructure expertise, with key assets including the University of Huddersfield's Institute of Railway Research/Centre for Innovation in Rail, the Institute of Transport Studies (University of Leeds), Leeds College of Building (the UK's only specialist building college), and other assets.</p> <p>Key to this ambition of accelerating innovation potential is a collaborative approach between these centres of excellence, enabling the city region to create a coherent and comprehensive innovation offer that will attract rail customers globally, as well as supply chain companies.</p> <p>Link to High Value Manufacturing and Transport Systems Catapults.</p>	<p>Work with DIT, LEP, WYCA, Government and LCR partners to develop a coordinated approach to increase exports and inward investment, capitalising on strengths stimulated by the Institute and also the Supply Chain Accelerator programme (see above).</p> <p>Ensure connections to the High Value Manufacturing and Transport Systems Catapults</p> <p>Funding should also be sought through private sector investment in the shape of employer support and sponsorship of facilities/posts.</p>

## Potential 2<sup>nd</sup> Tranche Projects

The priority of the first tranche of projects is on the construction and operation of HS2. Future projects may include the continuation of the first tranche of projects which will evolve as the market changes. It is likely that there will be a strong business case for the continuation of careers and supply chain investment, for example.

Looking ahead, technology changes will provide opportunities for the LCR to build on the current and developing expertise and asset base in digital and transport, possibly in the shape of a Transport Infrastructure Innovation Cluster focusing on the following areas/technologies:

- Smart Ticketing – The ability to make multiple mode journeys with one ticket and also removing the need for physical tickets and ticket barriers at stations.
- Autonomous Vehicles – This could include the vehicles themselves or the infrastructure to support the vehicles, or vehicle and non motorised user interaction
- Alternative fuel vehicles – Promotion of low emission and low carbon fuels
- Robotics
- Rail systems – technical development

A further opportunity for the LCR to work in partnership with Government and develop programme activity is in growing exports and inward investment in the rail and transport infrastructure space. UK investment in rail is the highest in Europe as the UK is investing over €6 billion per annum in mainline rail, and the programme of activity outlined above should contribute to the LCR supply chain becoming internationally competitive in the areas of light and high speed rail. We would look to work collaboratively with DIT/BEIS, LEP, WYCA and Northern Powerhouse and LCR rail supply chain companies to identify potential for growing exports and building competences and expertise; promote UK capability to existing OEMs and would-be investors with the aim of increasing UK content in contracts overseas and increased exports.

