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GETTING HS2
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ASSENT GIVEN
FOR HIGH-SPEED
RAIL NETWORK



STATION TO
STATION: HS2
LTD SEEK
DESIGNERS AND
LONDON EUSTON
DEVELOPMENT
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TRANSPORT SECRETARY
CONFIRMS HS2 ROUTES





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THIS ISSUE...

It has been a long time coming. Construction of HS2 - the hotly-anticipated high speed rail network linking north and south - is due to begin in earnest later this year, bringing with it a host of job opportunities and economic benefits post-Brexit.

Arguably, no infrastructure scheme in recent memory has had the potential to transform the UK that HS2 does. It's a hugely ambitious undertaking. So much so that it will likely be 2033 before rail-goers can journey from London to Edinburgh in three short hours. And yet, HS2 is about a lot more than mere logistics. It is a vision of a

better connected future – one which unifies cities and regions across the country and readies the UK economy for life outside the European Union.

In this exclusive eBook, UK Construction Online explores the implications for the southern, central and northern regions, and reflects on the latest HS2 news and opinion from across the industry.

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Publications Editor

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“
**Achieving Royal Assent
 for Phase I of HS2
 between Birmingham
 and London with such
 significant parliamentary
 support, is a monumental
 step in transforming
 rail travel in Britain.**
 ”

GETTING HS2 READY: ROYAL ASSENT GIVEN FOR HIGH-SPEED RAIL NETWORK

In February of this year HS2, the hotly anticipated high-speed rail network linking North and South, marked another major milestone - the biggest yet perhaps. Having suffered through more than three years of intense parliamentary scrutiny, Britain's brand new railway has received Royal Assent. Its delivery is now a matter of urgency and construction will shortly begin.

HS2 is a monumental undertaking. The first phase, spanning London to Birmingham, won't be operational till 2026, with the entire route expected to be up and running by 2033 - a lifetime away or so it may seem. But the economic benefit is clear, and High Speed Two (HS2) Ltd is launching a raft of community engagement initiatives, worth upwards of £70M, to ensure a smooth transition for those most affected.

According to David Higgins, Chairman of HS2 Ltd: "Achieving Royal Assent for Phase I of HS2 between Birmingham and London with such significant parliamentary support, is a monumental step in transforming rail travel in Britain. We have a long journey ahead of us to build the railway and secure permission for Phase II to make sure that the full

benefits of HS2 are realised. This journey will see businesses right along the route benefit from greater access to the skills, markets and professional services they need to succeed in today's global market. It will directly create some 25,000 jobs as well as forcing the pace of innovation in the construction industry.

"Throughout this process HS2 remains committed to mitigating the environmental impacts whilst continuing to engage with each individual community which is making sacrifices to enable a 21st century railway network to be built in Britain." The 'High Speed Rail (London - West Midlands) Act 2017', which amounts to little more than the HS2 planning application, received "overwhelming support" from MPs. During the Bill's third reading in the House of Commons, Members of Parliament voted 399 to 42 in favour of the high-speed rail network. A landslide near enough. The House of Lords was similarly effusive, with 386 to 26 backing the Bill's passing. Understandably, concern persists however. HS2 will barrel through town and countryside alike, flattening any and all properties in its path. For homeowners, it's a terrifying

prospect. Fortunately HS2 Ltd has proposed a comprehensive package of compensation and assistance, having unveiled a £70M sum to aid communities along the Phase I route earlier in the year.

The Homeowner Payment (HOP) scheme, for instance, will enable rural property owners 120m to 300m away from exposed high-speed railway lines to apply for £7,500, £15,000 or £22,500 depending on their proximity.

Two additional initiatives, with a combined worth of £40M, have also been announced - the Community and Environment Fund (CEF) and the Business and Local Economy Fund (BLEF). Through the CEF, HS2 Ltd will work to enhance community facilities and bolster countryside accessibility and conservation. Alternatively, the BLEF will boost local economies in regions where disruption is an inevitability.

It's by no means ideal, but such methods help demonstrate HS2 Ltd's commitment to smoothing the way. High-speed rail is a reality, and while the transition will no doubt prove difficult, the UK economy looks set to reap the benefits of a better connected Britain.

- HS2 line (Phase One)
- HS2 line (Phase 2a)
- HS2 line (Phase 2b)
- HS2 services on existing network
- New station (Phase One)
- New station (Phase 2b)
- Destinations served by HS2 services on existing network



TRANSPORT SECRETARY CONFIRMS HS2 ROUTES

The Transport Secretary has confirmed the HS2 railway lines between Birmingham, Manchester, Liverpool, Leeds, Sheffield and the East Midlands.

The decision will mean new connections between Birmingham, Manchester, Liverpool, Leeds, Sheffield and the East Midlands – all of them linked to London by the high-speed railway line.

The new route is expected to free up thousands of extra seats and additional services on local lines.

Transport Secretary Chris Grayling said HS2 would provide a major economic boost to areas of the country outside

of London and the South East.

Mr Grayling commented: "As well as creating skilled jobs, apprenticeships and business opportunities, it will also mean real day-to-day improvements for people across the country.

"By building a whole new railway line for high-speed intercity connections, we will free up local services, meaning more comfort, more seats and more trains for passengers across the North and the Midlands.

"We will now press ahead with building the line, while continuing to ensure affected communities get appropriate support and are treated with fairness, compassion and respect."

The new routes will, however, mean that newly built homes in Yorkshire must be demolished to make way for the new line.

The Shimmer housing estate in Mexborough will see 16 out of the 216 homes forced to make way – a number that is being disputed by the residents affected.

The Government has said that it will work with local residents to enable them to be compensated to a level where they would be able to purchase a comparable home locally.



HS2'S MAJOR CONSTRUCTION CONTRACTS ANNOUNCED

The winners of the major construction contracts for Britain's new railway have been announced with the £6.6Bn agreements supporting 16,000 jobs across the country.

The huge infrastructure investment covers the main civil engineering work on the first phase of HS2 between London and Birmingham – including construction of tunnels, bridges, embankments and viaducts. Amongst the winners are joint ventures that include Carillion, Costain and Balfour Beatty.

Transport Secretary Chris Grayling announced the decision to award

contracts, which will mean the new high-speed link reaching Birmingham by 2026.

Mr Grayling said: "This is a hugely important step in the construction of Britain's new railway and underlines this Government's determination to deliver an economy that works for all. "HS2 will deliver vital links between some of our country's biggest cities, helping to drive economic growth and productivity in the North and Midlands. "As well as providing desperately needed new seats and better connecting our major cities, HS2 will help rebalance our economy." In total, construction of the full HS2

route to the North West and Yorkshire will create up to 25,000 jobs and 2,000 apprenticeships. Another 3,000 people will operate HS2 and it is estimated that growth around new HS2 stations will create another 100,000 jobs. The full list of winning bidders to build the first phase of the route can be viewed here:

<https://www.gov.uk/government/news/first-big-hs2-contracts-to-build-britains-new-railway-will-support-16000-jobs>

A promotional image for JCB Connect featuring a yellow and green JCB skid steer loader. The machine is shown from a low angle, highlighting its tracks and bucket. A semi-transparent black box in the upper left corner contains the text 'INTRODUCING CONNECT'. The machine's body has 'CONNECT' and 'JCB' branding. A colorful bar is positioned below the text box. In the background, a modern building is visible.

INTRODUCING CONNECT

CONNECT

JCB

/C-1



The **CONNECT** alliance was developed as a direct response to the challenges laid out to UK industry by HS2 Ltd, and was officially launched by Andy Street, Mayor of the West Midlands on 28 June 2017 at Innovation Birmingham.

This unique event was attended by HS2 contractors, innovative SMEs and stakeholders alike – you can visit www.w.connecths2.com/welcome-to-connect/connect-hs2-launch-event to see the videos, photographs and presentations to find out more about this exciting and revolutionary new way of doing business in the UK.

CONNECT is an alliance of like-minded companies, all committed to creating value for HS2 Ltd and its contractors through collaborating together. We focus on using new technologies to drive innovation into the UK's construction and infrastructure sectors, helping our customers to deliver projects faster, safer, leaner and greener.

Being part of the **CONNECT** community is exciting and is already shaping a different way of working for us all. We believe that **CONNECT** can revolutionise the whole area of UK plant, equipment, operators, labour and training, which have traditionally been regarded by procurement teams as totally separate categories. By bringing these intrinsically linked 'pieces of the jigsaw' together we can ultimately create efficiencies and value, at absolutely no extra cost to our customers.

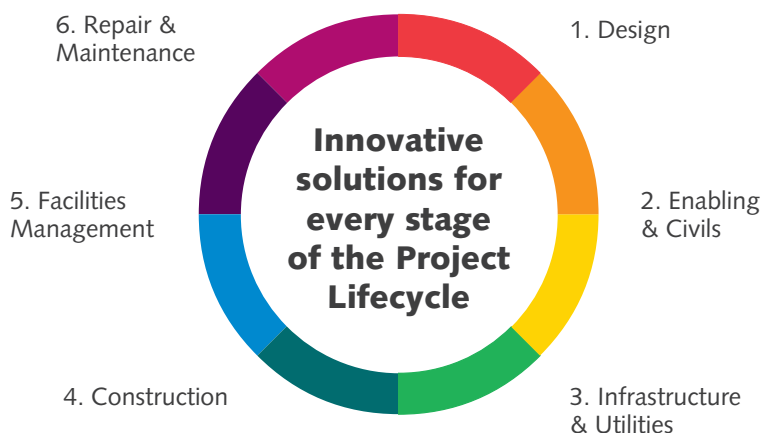
Alliance Partners



Innovative Suppliers



CONNECT is a new way of thinking, that is completely about choice and flexibility.



It's so simple - it's as easy as 1, 2, 3.
Which **CONNECT** option will YOU choose?

Option 1 - PLUG AND PLAY

The most radical approach, but the one most likely to bring around step-change in your organisation, and maximise the benefits in terms of time, value and profitability. You can choose to 'plug and play' our entire supply chain solution, commissioning all alliance members to work together in partnership, to provide a truly integrated, bespoke solution to suit you, your culture, values and your back office arrangements. This option can be completely tailored to address your every priority, including convenient on-site, 'one stop' solutions; fully integrated locations and deliveries; state of the art reporting, management information and a no-fuss P2P process.

1

Option 2 - MENU APPROACH

You can just as easily opt to 'pick and choose' various elements from our alliance portfolio to suit your own company requirements, think of it as the ultimate menu. This approach is absolutely fine with us all - you can rest assured that those companies you DO choose to work with are forward looking and progressive in their approach. They have all got something special about them that their peers have recognised, and are excited and happy to stand alongside, 'shoulder to shoulder'. You really can't get better recommendations than that. We absolutely only stake our reputations on fellow companies that we regard as 'best in class', and that have something special and exciting to offer you.

2

Option 3 - A TRADITIONAL APPROACH

We totally appreciate that some customers will want to procure as you always have always done. If this is you, you can totally regard all of our alliance partners and supply chain as a 'pre-qualified' pool of innovative companies for your review. We have done some of the hard work for you, and the best news is that we have all committed to share best practice and grow together over the coming years. So you can rest assured that you will be working with companies that have decided that they are going to evolve faster and stronger than the rest, and which are constantly learning and developing how to support you better.

3



If we were to sum up how we feel about **CONNECT**, we would say that we are excited by the future, and that we are looking forward to playing our part in developing the UK into a world-class centre of civil engineering and construction excellence. If you are interested in finding out more about how **CONNECT** could work to suit your contract or project, then do get in touch, we would love to meet you and find out exactly how we can help you...

The **CONNECT** community

The **CONNECT** community is a group of ambitious, innovative SMEs who want to get involved in HS2. The **CONNECT** alliance will help and support these companies to get into our supply chain so that we can all benefit from HS2 and play our part in leaving a lasting legacy for UK plc. There will be a series of **CONNECT** community networking events where industry leading guest speakers will share best practice and opportunities with SMEs. We've something for everyone, whether you are interested in:

- identifying, investing in and launching the latest innovations
- practical events to improve your own value-adding credentials
- networking with like-minded professionals
- showcasing what you have to offer
- learning from 'best in class' guest speakers



For more information on **CONNECT** please contact **jackiecuthbert@aplant.com** or visit **www.connecths2.com**

STATION TO STATION: HS2 LTD SEEK DESIGNERS AND LONDON EUSTON DEVELOPMENT PARTNER



High Speed Two (HS2) Ltd is seeking world-class architectural and industry expertise to help deliver four hugely ambitious HS2 stations, following the publication of contract opportunities for innovative new designs, and an accomplished development partner for London Euston specifically.

The bid winners will work alongside HS2 Ltd, the organisation responsible for high-speed rail countrywide, to further develop and refine detailed plans for three new stations – namely Birmingham Curzon Street, Birmingham Interchange and Old Oak Common in London. A wholesale expansion of London Euston is also planned.

Once built, tens of thousands of rail-goers will funnel through these stations each day, and they will be afforded easy and accessible onward connections to transport links nationwide. Furthermore, 170,000 new jobs are likely to be generated as part of a tranche of wider development works adjacent to the stations themselves.

A separate Master Development Partner is also being sought by HS2 Ltd to advise on and take forward additional opportunities for housing, office accommodation and retail space both above and around the revamped London Euston. Crucially, the Master Development Partner will be required

to join up with HS2 Ltd, Network Rail, the newly tendered design contract winner and the local authority to unlock the full potential of the site.

In total, 21 hectares of development space is up for grabs, and HS2 Ltd is keen to improve overall accessibility and create new public and green spaces around the wider London Euston area.

“The search for design teams to produce plans for new stations and world-class amenities for London Euston, Old Oak Common, Birmingham Interchange and Birmingham Curzon Street stations is a major step towards making HS2 a catalyst for growth across the country,” said Transport

Minister Andrew Jones: "The winning bidders will need to ensure the stations provide the best possible customer experience. There are also huge opportunities for development near all the HS2 stations. HS2 Ltd is progressing its search for a partner to deliver new homes, shops and offices around Euston station once the core HS2 work is complete."

HS2 Ltd Commercial Director Beth West added: "We're looking for the brightest and the best from across the industry to help us deliver one of the

most tangible legacies of the HS2 project – three brand new stations and a major expansion of London Euston.

"All four present unique challenges and opportunities for the winning bidders. Together we will deliver world-class designs that help unlock wider local regeneration opportunities and provide unparalleled levels of accessibility, ease and convenience for the travelling public."

So far, the shortlist for the station design contracts includes Arup, Mott MacDonald, WSP, Arcadis and a Jacobs/BuroHappold/Idom

joint venture. Each bidder has been invited to tender for at least two station packages.

On the redevelopment of London Euston, HS2 Ltd Commercial Development Director Tom Venner concluded: "Euston has been the gateway to the nation and the nation's capital for over a century. HS2 provides the opportunity for it to continue that role into the next century - and for the local community to be proud of that role. Together with our development partner, we aim to redevelop Euston in a way that will make it not just the nation's hub, but London's as well, the heartbeat of both the nation and the capital, fit for the 21st century and beyond."

**“
We're looking for the
brightest and the best
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of London Euston.
”**



A high-speed train is captured in motion, blurred background, with a platform in the foreground. The train is white and blue, and the platform has a yellow tactile paving strip. The image is taken from a low angle, looking down the length of the train.

HIGH SPEED NORTH: THE CASE FOR HS3

DID you know, it takes longer to travel from Liverpool to Hull by train than to journey twice the distance from London to Paris?

It's an astonishing admission, one which paints a beleaguered picture of northern rail provision and forms the basis of the National Infrastructure Commission's recent endorsement of HS3.

According to the Commission, the North is in dire need of investment – both in the immediate and long-term future – to reduce journey times, increase capacity and improve reliability. Kick-starting HS3 – the conceptual high speed railway linking North East and West – and integrating it with HS2 is therefore a priority.

Historically, the North has often lagged behind the South in terms of productivity. In 2014 the North East, West, and Yorkshire and Humber regions all had productivity levels less than 90% of the UK average, and 30% below that of London. Poor transport links have a role to play in this, hampering the North's ability to operate effectively as a single integrated economy.

The North makes a sizable contribution to the UK economy however, adding £209Bn of gross value annually – 13% of the UK total. As such, the Government cannot afford to let the region fall further behind. For two decades, northern rail has experienced relatively high levels of growth – a result of its renewed importance to the UK economy. Today, that

trend looks to have plateaued. Growth has stagnated, and there is now a disconcerting lack of commuters in comparison to alternative methods of transport.

Why is this? Performance is certainly a contributing factor. The Commission has identified several causes for commuter drop-off including overcrowding, inconsistent journey times, infrequent services, and poor quality rolling stock.

According to the Commission, these are issues that desperately need to be addressed and HS3 could well be a way of doing so: "If the North is to realise its ambitions for resurgent city centres with high concentrations of skilled workers, then better connected cities with broad access to markets and large labour pools will be necessary. Improved rail connectivity between the northern cities will play an important part in delivering this."

Of course, the arrival of HS2 – the high speed railway linking North and South – is already set to bring about a host of benefits. Manchester, Leeds and Sheffield will each be directly served, while Liverpool and Newcastle will both receive HS2 compatible 'through services'. Transport is but one avenue of the Northern Powerhouse however, as the Commission was quick to point out. For the North to realise its true potential,

the region must first join up with central government to lay the foundations for future economic growth and prosperity.

It is not enough to improve connectivity between the cities of the North, the Commission has said. This transformation should form part of a broader strategy – one which incorporates education, workforce training, research and innovation.

Lord Adonis, Chairman of the National Infrastructure Commission, explained: "If the North is to become a powerhouse it has to be better connected.

"Leeds and Manchester are just forty miles apart but there is no quick and easy way to travel between the two. In rush hour it can take more than two hours by car, by train it can be almost an hour.

"So we should kick-start HS3 across the Pennines and slash journey times to just 30 minutes. But we must not wait decades for change – journey times should be cut to 40 minutes by 2022."

Outlining his vision for a more economically robust North, Lord Adonis continued: "A transformed northern rail network should include high-speed connections to HS2 and the dramatic redevelopment of Manchester Piccadilly to deliver jobs and investment across the centre of the city.

HS2 LTD SEEK WORLD-CLASS RAIL MANUFACTURER FOR HIGH-SPEED FLEET



“
Britain's new railway
will carry over 300,000
people a day, improve
connections between
our great cities, free up
space on our existing rail
lines, generate jobs and
help us build an economy
that works for all
”

The wait is almost over. After much discussion, HS2 Ltd has launched the competition for its hugely ambitious £2.75Bn contract to design, build and maintain the next iteration of high-speed rail.

It's a big ask. The successful bidder will be required to work alongside HS2 Ltd to develop a fleet of 60 or so state-of-the-art trains, each of which will ferry rail-goers the length and breadth of the UK network.

There are supply chain benefits to be had as well, according to the Government. HS2 Ltd and its soon to be appointed industry partner will foster opportunities for small and medium-sized enterprises, boost skills development and training, and coax more individuals into HS2's ever-increasing workforce.

"Britain's new railway will carry over 300,000 people a day, improve connections between our great cities, free up space on our existing rail lines, generate jobs and help us build an economy that works for all," said Transport Secretary Chris Grayling. "But what will make HS2's reputation from day one will be its trains.

"It is a given that we want the trains to be comfortable, reliable and a

pleasure to use, meeting the highest standards internationally for passenger experience, noise reduction, and environmental sustainability. But companies interested in bidding for the train contract need to push the boundaries. We want to see innovation, creativity and ambition.

"The construction of these trains will also leave a legacy for this country, boosting skills, generating employment and strengthening the manufacturing supply chain."

This employment will come in the shape of 25,000 highly skilled jobs and 2,000 apprenticeship places, all of which will be generated during HS2's lengthy construction phase. A healthy UK economy is another priority, and HS2 Ltd is keen to hold discussions with the supply chain to ensure British business is in the best position possible for contract award wins.

As for the successful bidder, a contingent will occupy the dedicated rolling stock depot planned for Washwood Heath in Birmingham.

From here the high-speed fleet will be maintained to ensure safe and speedy journeys for some 300,000 passengers per day. This site will also house the HS2 Network Control

Centre, which will create hundreds of skilled jobs in its own right.

According to Chris Rayner, Managing Director of Rail Operations at HS2 Ltd: "HS2 represents a once in a lifetime chance to rebalance the national economy. It will transform travel in this country, connecting eight of the ten largest cities in the UK when completed, as well as improving capacity for customers and productivity for the economy.

"The priorities and needs of our future passengers are at the centre of our thinking. Quite simply we want every aspect of travelling by HS2 to exceed expectations - from the passenger experience in selecting their journey and getting information, to travelling through our stations, to the train ride itself. We challenge bidders to achieve this ambition."

An initial contract to manufacture the first tranche of trains is to be awarded as a single package. Invitations to tender are expected to be issued to shortlisted bidders in spring 2018, with a contract award to follow in late 2019. Future contracts will add to and complement this fleet, and provide trains for the second phase of HS2 in distant 2033.



“
By 2025, the global construction market is predicted to grow by over 70% and the UK needs to fight for its fair share of that growth.
”

MODULAR BUILDING CUTS RAIL CONSTRUCTION COSTS

Within five years, over half of all construction projects will be built offsite. Far from being a lesser alternative to traditional methods, the high quality of modular construction is now so integrated into UK construction that it is difficult to single out which buildings have been built using traditional or modular methods.

At UK rail stations modules are the new 'bricks and mortar', with Oxford Railway Station being just one example. Matthew Goff, Director of UK Operations at 'Actavo Building Solutions', explains how rail can cut construction costs.

Great British rail in the 21st century

By 2025, the global construction market is predicted to grow by over 70% and the UK needs to fight for its fair share of that growth.

When the Government launched Construction 2025 - a joint strategy which sets out how the construction industry and government will work together to put the UK at the forefront of global construction - it did so with ambitious targets.

Stating that by 2025 the construction industry needs to cut both its initial and whole-life costs of built assets by 33%, it also says construction needs to be 50% faster, deliver 50% lower carbon emissions and reduce the trade gap between total exports and

imports by 50%.

The £56Bn High Speed 2 (HS2) puts UK construction well on our way to becoming the global leader in the rail sector.

Offsite building methods fit well with rail construction

Manufacturers' investment in the research and development of modular buildings started to pay back some years ago. They have brought world-class buildings to the UK's rail industry which are not only higher in their environmental performance than a traditional build, but can also be as aesthetically pleasing.

Offsite construction offers numerous benefits to the rail sector; new stations, trackside and non-trackside, can all be delivered in short time-frames and with financial savings - that's the difference modular methods make. Modular is also built to the same, if not higher, sustainability standards as traditional methods, including BREEAM.

If you couple all these benefits with modular's more nimble approach which means it adapts to changes in specification more quickly than traditional bricks and mortar, the rail sector is set to win all round. Complete turnkey solutions delivered using offsite construction methods

could be the rail sector's answer to reducing its costs and construction programmes.

World-class health and safety benefits

HS2 is one of the world's largest construction projects, and health and safety is one of its core values. As HS2 is working with a broad group of contractors, suppliers and manufacturers, it has established a unique, belief-based health and safety brand - 'Safe At Heart'. This culture puts safety at the heart of building the railway and reflects that the health and wellbeing of the collective is at the heart of everything they do.

There are many health and safety benefits associated with modular buildings due to the controlled, factory environment in which they are manufactured. The factory-based setting provides cleaner, safer working conditions and safety requirements can be easily met and policed. There is also a reduced risk of trips, slips and falls, particularly as work at height is reduced and manual handling and lifting of goods is limited. Now viewed as the modern, innovative construction method of choice in the rail sector, modular building offers both robust quality and speed of build with minimal disruption.



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