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Velaro Novo

Expert interview with Jo Hensher
and Nigel Broughton on high-speed
transportation in the UK

The new high-speed railway currently being built in the UK: High Speed 2 (HS2) will connect London and Birmingham to Manchester, the East Midlands, and Leeds when complete. Jo Hensher and Nigel Broughton share their insights on one of the largest infrastructure projects in the world – and how Siemens Mobility is turning tradition into trendsetting solutions in their bid for the project.



Jo Hensher, Bid Director for Siemens Mobility, sees her role as the champion of the customer within the team.



Nigel Broughton, Fleet Operations Director for Siemens' Eurostar contract, brings over 30 years of railway experience to the table.

So let's start by talking about trains. What do high-speed trains mean to you personally?

Jo: Well, I take the train to work every day. So I'm a big fan of trains in general. They are, for me, much more efficient than driving – you get so much more time to relax or work.

Nigel: I've been working on the railways for over 30 years and I've been involved in a number of opportunities within the UK to push change, in terms of new rolling stock introductions, etc., over the years. So you can say railways have always been in my blood. And I really do get a buzz from seeing trains on the network which have my fingerprints on them.

Jo: I've always found working with trains to be very interesting. It's very tangible, it's very touchable – it's really clear as an individual what your role is in terms of supporting modal shift, and helping people get home on time. Like Nigel said: there is a great deal of pride for people who work in the industry in what they do.

Tell us about the HS2. What does it mean for passengers in the UK?

Jo: HS2 isn't just about the new high-speed line from London to Birmingham, Manchester and Leeds. HS2 trains will continue on the existing network to places like Liverpool, Newcastle, Glasgow and Edinburgh – providing a much needed extension of capacity and connectivity for passengers traveling across the UK. HS2 has also set itself ambitious targets for a world-leading passenger experience. It is promising a major step change in the end-to-end experience of passengers traveling by railway.

And are there any differences between passengers in the UK compared to the rest of Europe? Are there any special requirements that need to be met?

Nigel: I think, ultimately, people want to buy a ticket and they want to be sure that their train is available. They want a train that is clean, that is reliable, and which operates on time. And that is the same everywhere.

What does Siemens Mobility bring to the table in their bid for HS2?

Jo: Definitely our experience in high-speed rail. We have delivered three generations of the Velaro since 2005 and fleets like the Eurostar demonstrate our ability to deliver complex trains, within complex systems, within the context of the UK. That experience is invaluable to the delivery of a brand new system. And of course, in Siemens Mobility, we have expertise not just in rolling stock, but also on the infrastructure side as well with our signalling and electrification capabilities.

Nigel: Yes, the Eurostar project is eight years in its development and, as Jo again mentioned, it's a step change in terms of the Velaro family. This allows us to bring in the principles of lessons we have gained over these years plus experience in delivering high-speed rail solutions into the UK market.

Jo: ...and the Velaro Novo takes all of that knowledge and experience and five years' worth of R&D into creating something that's going to be really transformational for passengers and operators. It's leveraging all of our experience from the past two decades but also giving it that extra oomph in what we've been able to achieve with the Velaro Novo.

Next question. The environment has been in the news a lot recently with many young people around the world protesting for climate change. How does the Velaro Novo UK fit into this picture?

Jo: Hopefully we will see HS2 and other international high-speed rail projects encouraging a cultural shift – allowing people to say no to the car, no to airplanes, and taking the train instead. I personally think that using the train is a much more pleasurable experience anyway. Nigel, with the Eurostar, have you seen more people deciding to take the train rather than fly between London and Paris or London and Amsterdam?

Nigel: Yes, we do see a lot of business travellers using the Eurostar – between London and Paris in particular – as opposed to the airline. But there is also the bigger picture when it comes to environmental protection. We're talking about noise protection. We're talking about unit emissions. We're talking about re-generable power from efficiencies between traction and braking. So there are a lot of innovations which go a long way towards improving sustainability.

Jo: What I would say is that it's obvious that the train itself is more sustainable than other major forms of transport. But what's really important is that high-speed rail travel is affordable. Otherwise people won't choose to take the more sustainable option. The Velaro Novo really draws upon all of our experience in maintaining high-speed trains. It is significantly easier to maintain than previous generations of trains, with the potential to make greater use of intelligent analysis and diagnostics to ensure that maintenance happens before anything fails. We've thus been able to significantly improve the whole lifecycle cost for the operator – which should ultimately benefit passengers.

In addition to the environmental footprint, another key requirement of HS2 is reliability. What does this mean to Siemens Mobility?

Nigel: When we talk about reliability, we are talking about the overall performance and availability of units once they are out on the railways. And what we do is look at a number of aspects in terms of optimizing the maintenance cycle. We look at where things break – because things do break – and when they break. By analyzing this and understanding the root causes of any failures, we can build upon change.

And part of that is based on the data that we are able to collect. If that is anything like the amount of data that we get from the Eurostar – we will have more than enough information to understand what is happening within the system and preempt breakdowns.

Going back to availability, this is how we support the train from its introduction through the mobilization phase and over its entire lifecycle. And as we gain more experience, we will build up the expertise and capability to further improve overall performance. It's a continual lifecycle change.

Besides the environmental and passenger benefits, there are other perhaps less obvious benefits that a new high-speed railway will bring to the UK. Could you tell us a little bit more about that?

Jo: There are some overlooked – and surprising – benefits that are already resulting from HS2. For example, HS2 will become one of the biggest planters of trees in the UK. Something like seven million trees will be planted along the line, forming a ‘green corridor’ of connected woodland and wildlife habitats. That’s absolutely huge. And at the site of the new terminus in London, there is a massive archaeological exercise going on at the former St James’s burial ground, which promises to give a fascinating insight into the early modern development of London. In fact, over a thousand people are supporting 60 archaeological digs along the HS2 route between London and Birmingham. So this new project has not just created traditional railway jobs but is also creating jobs in areas you wouldn’t really have thought of.

Nigel: I think the other point is, well, the legacy which this is bringing. By 2026/2027, I’ll be pushing retirement myself. But in ten years, you’ll have school leavers who will be coming into this environment – and again, it’s really about how we encourage younger people to join the rail industry. And that’s all part of the groundwork that is being done now. We’re working with universities and other institutions to encourage a generational change, reduce the skills gap, and get the right people into the right jobs.

Last question. The product claim for the Velaro Novo UK is, “Rethink velocity.” What does this mean for you personally?

Jo: To me, that means respecting the past – but not being afraid to think differently about the future and challenge core assumptions that have served us well over the last couple of decades.

And Nigel, what about you?

Nigel: Very similar really. Life is all about change. And that involves working with our experiences of what has succeeded in the past and – looking into areas which need improvement. And I personally look forward that challenge.

Thank you, Jo and Nigel, for your time.

This interview is part of our series of expert interviews about the Velaro Novo. Read the remaining interviews and learn from our Velaro Novo experts what inspired them to look at their field from a whole new perspective.



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