

The conclusion of an epic journey

The re-opening of St Pancras International train station marked a triumph for engineers and surveyors, says **ANNE GIACOMANTONIO**

It has been almost a year since London's St Pancras International train station and the High Speed 1 (HS1) railway project that connects it to the Channel Tunnel opened to the public. The relocation of the Eurostar with its super-fast connection to Paris and mainland Europe has meant that thousands of people from the UK and around the world have already experienced the grandeur of this stunning station. It is built on the foundations of the original structure from visionary Victorian railway engineer William Barlow, brought into the present with the help and talent of thousands of skilled engineers and surveyors.

The station and HS1 project took nine years to complete, re-opening in November last year – 139 years after it was originally opened – with a grand ceremony attended by the Queen. It now takes two hours and 15 minutes to travel to Paris (shaving 40 minutes off the previous fastest rail route) and an hour and 51 minutes to get to Brussels, all through the investment of almost £6bn.

One area that was part of Clare Carr's remit was the undercroft, an area that was originally an underground room as a result of massive foundations that hold the tracks 18ft above street level. "When we first went in there it was a rat-infested gutter, and that's no overstatement," says the civil engineer and section manager for St Pancras, who was responsible for refurbishment. Originally the area was also used as a storage area for beer barrels; now it has a new lease of life as a retail area and concourse to the main station.

What was once the pride and joy of Midlands Rail had been neglected to the point of decay since the Seventies, not that you would ever believe it today. Another element of the station that needed serious work from Carr and here team was the Barlow Shed itself: the name for the huge area of the station housed under the 243ft single-span roof that arches above it. "It was a major task because one must remember that the Barlow shed is a Grade-1 listed building," says Carr. "English Heritage really challenged our methodology by making us

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go back to the methods that were used to build it in 1850.

"It was wonderful to work on such a grand, old building. I also created the area between St Pancras and King's Cross, where people can now walk through. It's a very small area but it took 18 months to create because we had to support eight floors of the Midland Grand Hotel above it."

Mike Glover, structural engineer, technical director and deputy project director for the entire HS1 project was there from the beginning, and was equally excited. "I was involved for 12 years, from the inception right though to the first trains," he says. "Although 12 years sounds like a long time,

it was a stupendous collection of projects that I was working on – St Pancras was just one of them. The other things I was responsible for was all the big bridges. The Medway Bridge, for example, was a massive undertaking in terms of its structural engineering."

The main challenge for Glover was how to deal with the existing railway: "On one occasion we had to close the railway and then 72 hours later it had to be up and running again with a totally new bridge in place – a huge bridge at that!" He is understandably proud of the project and is keen to point out the role of engineers in the whole thing, which can sometimes go unnoticed. "There are so many things that we do just to enable you to see what you see, but you can't see the cleverness behind it – it's very subtle," he says.

Jason Rooney, a quantity surveyor, was managing surveyor on parts of the St Pancras project, including the ceiling in the baggage section and other back-of-house areas. He, like most people, thinks the station is impressive. "When you come out of King's Cross station from the Piccadilly tube line, come to the main ticket hall, walk up the steps into the old building and through the arches, you see that expanse – it's incredible," he says.

So, there you have it: three of the thousands of people involved in the St Pancras and HS1 project. In the future there will be more groundbreaking UK-based projects that will need civil and structural engineers and quantity surveyors; make sure you don't miss out.

