

# HS2 celebrates launch of TBM for second tunnel bore under Long Itchington Wood

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HS2 Ltd's 125 metre-long 'Dorothy' tunnel boring machine has launched for her second one-mile tunnel bore under Long Itchington Wood in Warwickshire, marking the next big milestone for construction on the northern section of Phase One.

After launching in December 2021, the Balfour Beatty VINCI (BBV) tunnelling team worked around the clock in shifts over seven months, with the TBM becoming the first on the HS2 project to complete a tunnel drive in July 2022.

HS2's senior project manager for Long Itchington Wood Tunnel, Doug Barnett: "After celebrating HS2's first historic tunnel breakthrough in July, this TBM reassembly and relaunch is another first for the HS2 project.

"One year after Dorothy launched for her first drive, she's now set off for the second bore, and we look forward to seeing the next HS2 tunnel breakthrough in summer 2023."

Over the last four months since the breakthrough, the gantries of the tunnel boring machine, which weigh over 1,000 tonnes, were brought back through the tunnel and reassembled at the north portal. The huge



cutterhead, weighing 160 tonnes and with a 10 metre diameter, was moved by road during an intricate night-time operation in September. The TBM's 130 tonne tail skin and eight other large pieces from the TBM's front shield and middle shield, were also transported by specialist equipment.

This is the sixth tunnel launch on the project, but the first time a TBM has been reassembled and reused. Four other TBMs are currently in the ground, digging twin bore tunnels under the Chilterns and London. When the TBM breaks through next summer, Long Itchington Wood Tunnel will be the first twin tunnel to be completed on HS2.



*The tunnelling team*

Neil Johnson, tunnels delivery director for Balfour Beatty VINCI said: "This has been an intense four months for the 300-strong team, including an intricate logistical operation to safely transport the TBM's giant cutterhead and tail skin back to the north portal.

"This is another fantastic milestone for BBV and a proud moment for our fantastic tunnelling team."

Civil engineering degree apprentice Jake Flood from Walsall has just joined BBV's tunnelling team and was on site to celebrate the launch of the TBM. He said: "After successfully completing my Construction T-level qualification at Walsall College, including an industry placement with BBV, I'm really thrilled to now be working in the tunnelling team.



“It’s been amazing to be involved in the relaunch of Dorothy, and to celebrate this milestone on site.”



*HS2 apprentices Leah Hickman and Jake Flood at Dorothy TBM's second launch*

18-year-old Leah Hickman from Cannock, who has just started a degree-level Chartered Surveyor Apprenticeship with BBV, also joined the team to mark the occasion. Leah said: “Working on such a huge project while I do my degree apprenticeship is brilliant.

“As one of BBV’s 100 apprentices, it’s providing so many great experiences, and I’m looking forward to being part of more big moments as HS2 is built in the Midlands.”

The tunnel, which preserves the ancient woodland above, forms a key element in how HS2 is managing environmental impacts through the design of the railway, protecting Britain’s precious wildlife habitats. Long Itchington Wood is classified as a Site of Special Scientific Interest (SSSI) with complex ecosystems that have taken hundreds of years to establish.

Excavation of the twin bore tunnel will produce around 500,000 tonnes of mudstone and soil, which is being processed at an on-site slurry treatment plant and separated out before being transported by a 254 metre conveyer to be used to build embankments along the route of the railway.

The TBM is named ‘Dorothy’ after Dorothy Hodgkin, who in 1964 became the first British woman to win the Nobel Prize in Chemistry.