

London HS2 tunnelling work close to launch as teams receive massive boring machines

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An essential step in the creation of London's HS2 tunnels has been taken – with the delivery of two 1,900 tonne boring machines.

The giant Earth Pressure Balance Tunnel Boring Machines (TBMs) arrived in West Ruislip, where HS2 site teams are assembling them ahead of the 2022 works. The machines had been delivered to HS2's main work's civils contractor, Skanska Costain STRABAG joint venture (SCS JV) from international specialist TBM manufacturer Herrenknecht in Germany back in November.

The massive machines will be the first of six TBMs that will bore 13 miles of twin bored tunnels underneath London. They will join eight others that will operate on Phase One of the HS2 project between London and the West Midlands, which will dig 64 miles of tunnels in total.

Getting the enormous pieces of the TBM to the site required a lot of careful coordination, with support from the police and National Highways. The largest components of the machines were transported by road from Essex ports on vehicles that could support the extra-wide loads.

Client director for HS2, Malcolm Codling, said: "The HS2 team at West Ruislip have been preparing the site for over two years to ensure it is ready to launch the first two London TBMs in 2022. This will be an exciting step as we begin our four-year programme of tunnelling under London, showcasing the best of British engineering and building Britain's newest low carbon transport network."

The two machines have been designed to bore predominantly through Lambeth group (a set of geological rock strata), chalk and London clay, and are automated to install 4,220 tunnel segment rings each, to create each 5-mile tunnel.

About 15 people at a time will operate on each TBM working in shifts, keeping the machines working around the clock for two years, only stopping at Christmas and Easter. Approximately 40 people are working to assemble the TBMs, preparing for the launch in 2022.

James Richardson, managing director of Skanska Costain STRABAG joint venture, commented: "Delivering these huge TBMs to West Ruislip was an enormous logistical challenge involving 260 deliveries, including 110 abnormal loads. Our team worked tirelessly to deliver these items efficiently, whilst minimising disruption to our neighbours. All eyes will be on West Ruislip in 2022 as we start to build the London tunnels, reaching depths of 30m below ground."

As the date for tunnelling draws closer, HS2 will be seeking to name each TBM and has already begun that process, working with local schools in Hillingdon where the TBMs will be launched. In early 2022, a shortlisted set of names will be put to a public vote, to help choose the names for HS2's fourth and fifth TBM, after Florence, Cecilia and Dorothy who have already started their journeys underground.