High Speed 2

HS2 is not a simple programme, we have worked on many rail and transportation programmes, this represented some of the most challenging requirements and constraints we've faced.

the challenge

High Speed 2 (HS2) is one of the largest and most complex transport schemes ever undertaken. This multi-billion-pound programme of works will deliver a new high-speed railway, including track, stations, rolling stock, systems and enabling infrastructure. A critical success factor is seamless integration with existing Network Rail infrastructure, but the need for interoperability exponentially increases the planning and stakeholder management challenge.

A project of such scale and complexity must seek the full range of statutory powers and authorisations through an Act of Parliament. As a new start-up, HS2 Limited needed to build its team and capability while producing a hybrid Bill and supporting documents. As a new business forms, a consistent approach to planning and delivery across each function is vital, and any procedures and systems must be able to learn and adapt.

Given all these engineering, logistical and operational factors, substantial interface risks remain – both within the project and with external programmes and organisations – and significant political and governmental oversight is to be expected. Assurance is a crucial part of ensuring the ongoing viability of the programme and its outcomes, as well as demonstrating confidence and capability to the taxpayer.

351 miles
of new track
linking London to Birmingham and Birmingham to Manchester and Leeds.

Phase 1 linking London and the West Midlands; **Phase 2a** linking the West Midlands and the North via Crewe; and **Phase 2b** completing the railway to Manchester and Leeds.

343 miles of railway track
45 miles of tunnels
37 miles of viaducts
119 miles of cutting
120 miles of embankment
34,000 workers.

HS2

the solution

To tackle this challenge, we first had to secure additional planning and controls resources for the critical areas, such as commercial, engineering and property. We managed a strict open tender process and contract award to supply project professionals to bolster the growing organisation's permanent staff.

Next, we created a systems administration support team to set up, configure and provide ongoing support for planning systems such as Oracle Primavera P6 and Deltek Acumen Fuse. This team was critical in maintaining the integrity of forecasting data and in helping HS2 Ltd to get the most from the tools available, providing training for planners and awareness sessions for delivery and support staff. To achieve this, we worked closely with our software vendors and integration partners; their knowledge and experience helped us to blend our system and data needs in the most optimal way.

In parallel, we developed a set of data structures, processes and procedures that delivered the programme controls outcomes and were flexible enough to adapt to a schedule that would inevitably evolve.

We developed an enterprise project structure aligned to the organisational and commercial strategy and best practice external schedule integration, delivering a critical path method and change impact analysis across many individual but dependant schedules. We introduced gamification into planning, developing a simple way of validating the ongoing accuracy of planning forecasts using technical quality, adherence and change to drive continuous improvement.

the impact

HS2 is not a simple programme. We have worked on many rail and transportation programmes, but HS2 presents some of the most challenging requirements and constraints we've faced; nowhere else needs integrated and controlled planning more.

By developing, adapting and communicating the evolving state of planning, we were able to create a culture where proper planning mattered, where people didn't need to know 'how' but knew 'why'.

This framework delivered an accurate critical path method across multiple disciplines and enabled a robust way of managing interfaces. Through this, we identified critical early issues and focused management efforts during the vital early phases of this mega project.

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