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Case study: Staying on track using effective program and management control systems

Deloitte entity:	Deloitte United Kingdom	**Timeframe:**	April-December 2011
Client name:	Crossrail	**Services supplied:**	Financial advisory, analytics, cost management, technology assessment and implementation
Topics:	Program and cost control systems		
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As it moved from planning to delivery, the massive Crossrail transport project in London needed to show it could keep to its timeline and budget—especially in a time of government austerity. To do this, stronger program controls and reporting were needed. Taking a transformative approach, Deloitte United Kingdom helped Crossrail develop and implement a suite of program control systems that would provide an integrated, efficient, simple, and reliable toolkit with which to control project delivery. The system now provides an over-arching view of all the key elements of the project with quality data that helped Crossrail meet its targets.

The situation

Crossrail is one of Europe's largest construction projects. A major cross-London railway planned to open in 2018, Crossrail will provide a 10 percent increase to rail capacity in the capital.[1] But the project is as complicated as it is ambitious. With more than 14 miles of tunnels being bored directly under one of the world's busiest cities, Crossrail must manage multiple concurrent construction contracts and worksites along the length of the entire route while looking after the safety of up to 14,000 workers. With costs peaking at £5million to £6 million a day, the slightest delay can have serious budget implications.

In Autumn of 2010, Crossrail was entering a crucial stage, moving from the planning phase into delivery. As part of a critical review process, Crossrail needed to satisfy its sponsors—Transport for London and the Department of Transport—that it had full control of delivering the project on time and on budget. "As we prepared for transition from design to construction," says Neil Farmer, IT Director for Crossrail, "we needed to implement robust program controls and contract management systems, processes, and a skilled organization capable of using them."

Management had no easily accessible, single view of the project's key elements. This meant a potential for increased costs and delays. And Crossrail had to be affordable in a time of government austerity, with £1 billion in cuts already made to the project. The actions taken to achieve these cuts further drove a need for better control through IT systems that were more automated, integrated, and provided a single view. It was a complex situation that required collaboration among the many parties involved in Crossrail.

The solution

Crossrail's objective was to implement a suite of program control systems that would provide them with an integrated, efficient, simple, and reliable toolkit with which to control delivery of the railway. Based on previous experience, Crossrail valued Deloitte United Kingdom's ability to work with numerous delivery partners in a complex environment with many organizational layers. The team was selected to help Crossrail reorganize the existing program controls function, define a single set of procedures, and select, design, and implement new supporting systems.

From the start, the project was about more than systems management and data—it was about building confidence in the project's delivery. This was critical for Crossrail to receive funding past an established review point in Autumn 2011.

Thus, the team took a transformative approach rather than viewing the project as a technology implementation.

One of the first objectives for the team was to define a single set of integrated procedures, processes, and reporting systems for all of Crossrail's wide range of program controls. The team also worked with Crossrail to establish 200 "anchor milestones" that would provide visibility of the delivery process along a timeline from January 2011 to 2018. These milestones would need to be met in order to complete the railway on time.

A new cost management system was also required to assure stakeholders that strong, transparent program controls were being adhered to. The team collaborated with Crossrail and selected a technology partner to deliver a system that simplified and shortened data capture and validation processes. The system provided a program-wide application with a single set of tools that could be used across the entire project, allowing for consistent, complete, and quality data. PRISM G2—the implemented application—went live in August 2011.

An additional work stream focused on enhancing Crossrail's overall reporting and analytics capabilities. With existing processes—which relied on Excel and manual manipulation—generating reports could take up to several weeks. Data was in danger of being out of date by the time a report was received, diminishing accuracy and transparency of the project as a whole. Crossrail needed a reporting system that could provide a centralized data repository that would integrate and aggregate data across key program control areas. The team developed an analytics platform that enhanced the current data warehouse and set a standard reporting structure. The solution—which included an easy-to-use interface for accessing information—allowed key systems to now connect, thus integrating as well as simplifying and automating processes. This reduced the manual manipulation needed to generate reports, decreasing the chance of human error and speeding up delivery times.

Throughout the project, Deloitte United Kingdom worked with Crossrail in a highly collaborative way, encouraging close cooperation between the transition team and the existing program controls team. Consensus was negotiated among stakeholders by facilitating discussions that took an objective view of Crossrail's requirements.

Deloitte United Kingdom also helped those from industries unused to advanced technology become accustomed to and comfortable with the new systems. Working hand-in-hand with contractors and technology providers early on in the project, the team designed and administered training programs—both in person and online—as well as developed change management initiatives to ensure all platforms and systems were readily and thoroughly adopted.

The efforts drew on numerous skills from across the UK member firm, with more than 40 practitioners participating. The team featured specialists in technology implementation, reporting and analytics, finance, cost control, business processes, document control and document management, strategy development, and process improvement.

"Deloitte UK worked closely with us," says Farmer, "as a trusted partner to support us—and, at times, challenge us—in defining the appropriate set of requirements and in selecting the best, integrated set of systems solutions."

The outcomes

In just nine months, a mission-critical technology and business change program was delivered that would provide effective program and management control systems. The new system has provided an over-arching view of all the key elements of the project, with quality, reliable, and traceable data from all areas automatically pulled together in one place. This allows the Crossrail steering committee to see how different elements impact schedules, costs, and risk.

Crossrail's report production process is now more automated, with a formal audit trail to demonstrate data management, assurance, and effective governance. With better data traceability, transparency has improved overall. The new master data structure reduces reporting errors and improves the ability for ad-hoc analysis. The system will also allow the team to identify and mitigate delays and changes, helping to avoid unnecessary cost overruns. Over 150 people have now been trained in the new system, with an on-going rolling training program now established.

The project has dramatically increased Crossrail's ability to track project performance. With the necessary controls in place, Crossrail met its targets and the additional funding to move into the next phase was released. Crossrail is now poised to deliver the promised benefits of the railway to Londoners and people throughout the United Kingdom.

[1]http://www.crossrail.co.uk/

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