Steve Cockerell

GOING DIGITAL

Steve Cockerell, industry marketing director, Rail and Road at Bentley Systems, highlights how the tech giant is spreading the use of BIM methodologies on railway projects

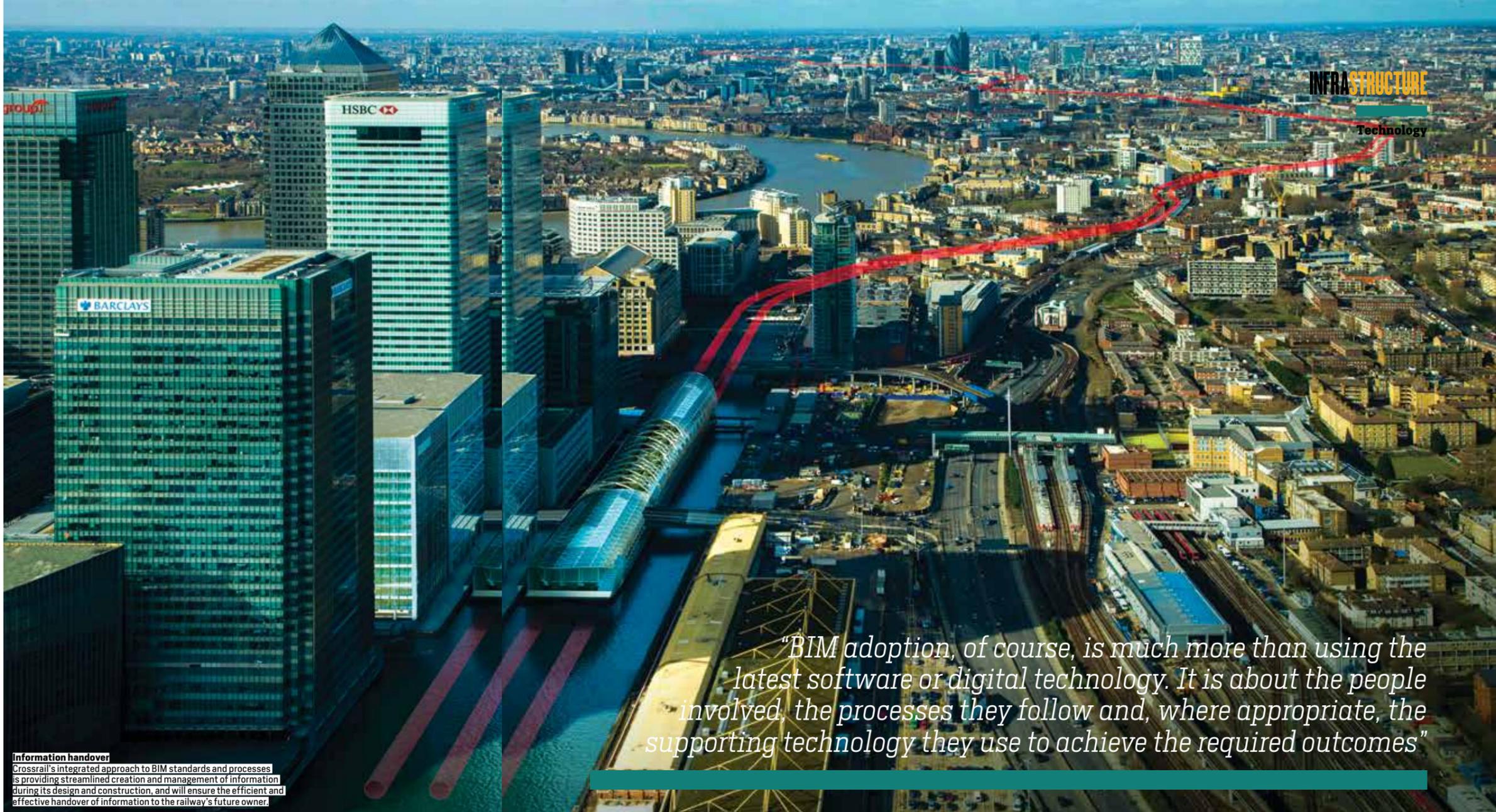**Information handover**
Crossrail's integrated approach to BIM standards and processes is providing streamlined creation and management of information during its design and construction, and will ensure the efficient and effective handover of information to the railway's future owner.

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Ever since the first railways were constructed, rail professionals have focused on improving this method of travel to be the safest, fastest and smartest means of moving people and products. In an ever-evolving digital world and economy, however, the only way for our industry to advance is by embracing digital technologies throughout the planning, delivery and operation of existing and future networks, plus the systems that support them.

A significant part of what I would term a digital journey for many organisations today is establishing or adopting building information modelling (BIM) standards and procedures. BIM adoption, of course, is much more than using the latest software or digital technology. It is about the people involved, the processes they follow and, where appropriate, the supporting technology they use to achieve the required outcomes. If embraced by all, BIM methodologies can transform traditional project management – where data is unstructured and team members work independently – into a truly collaborative environment.

In a study, Bent Flyvbjerg, an expert in project management at Oxford's business school, estimated that nine out of 10 projects that cost $1 billion or more go over budget, with rail projects in particular going over budget by an average of 44.7%. It could therefore be argued that the topic should be front of mind for many of us, as time and cost over-runs on large new capital projects, or when upgrading and maintaining existing rail networks, tend to affect our everyday lives.

Today, its connected data environment, which uses Bentley technology, is

Widely considered a global exemplar for its work in digital information management, Crossrail is busy constructing London's soon-to-be-operational Elizabeth Line. Crossrail's integrated approach to BIM standards and processes is providing streamlined creation and management of information during design and construction, and will ensure the efficient and effective handover of information to the railway's future owner.

provisioned in Microsoft's Azure cloud computing platform. It provides the organisation with a single location for storing, sharing and managing information for approximately one million assets. The project remains on time and on budget, and is on track to be the first major UK infrastructure project to fully realise the value of BIM methods across the whole asset lifecycle.

China Railway Eryuan Engineering Group is another example of a leading organisation that has

revolutionised its processes and is going digital in this way. "By using the Bentley platform, the 3D collaborative design of the whole project was completed efficiently and rapidly, which brought hope and confidence for our future intelligent railway construction," said BIM Centre director Dong Fengxiang.

When complete, the railway will incorporate the world's longest span on a railway arch bridge and be Asia's longest railway tunnel. It was designed and is being constructed with the help of an integrated 3D collaborative design model.

While Bentley has a proven history of accomplishment in this sector, it's only the start. I firmly believe that with our depth, breadth, scalability and pedigree in rail, our users can be assured that we will deliver the digital innovation they need to succeed.

One such innovation is the recently launched OpenRail suite of software and services. This technology offers a holistic approach from requirements capture to asset disposal, via a systems engineering methodology that provides compliance and

assurance for complex rail project delivery and operations.

Going digital in rail means your data is mobilised, your people are connected and your processes are enabled through technology that allows your team to do what they do best even better – from planning to performance. Ensuring that digital context, data and workflows become part of your rail and transit network's DNA, leveraging your existing investments in BIM technology, processes and standards, going digital helps you take the next step in your digital journey. ∎