

CASE STUDY

**REVOLUTIONIZING RAIL INFRASTRUCTURE:
TRANSFORMED NETWORK RAIL'S
FLOWBRIDGE PROJECT**



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Overview

The **Flow Bridge initiative**, led by Network Rail, introduces a pioneering footbridge designed to redefine rail crossings. This innovative project addresses **safety enhancement, cost reduction, and infrastructure transformation**. Crafted by Network Rail's in-house teams, the Flow Bridge prototype has earned accolades for its potential to replace hazardous rural footpath crossings. This aligns with Network Rail's overarching **commitment to pedestrian safety**.

This project has garnered recognition and is positioned to secure funding for additional bridges within the next year. This strategic expansion plan reflects Network Rail's ambition to cultivate a **replicable, environmentally conscious bridge solution**.

The Flow Bridge project underscores Network Rail's dedication to scaling up operations, optimizing cost efficiency, and creating a secure and modernized railway infrastructure for the future.



Challenges



Document Management process structured around storage-oriented system lacking interoperability and real-time notifications



Cross-functional teams spread across different organizations and locations



Overcoming Manual Efforts in 3D Model Collaboration: Bridging Software Discrepancies

Teknobuilt engaged with the flow bridge team and identified the As-Is workflows and key issues facing the stakeholders. To enable the flowbridge design process to be repeatable and scalable a simplified visible workflow was arrived at. A lot of the manual challenges facing the **3D model workflow** were automated by dynamically linking the two 3D modelling softwares. The project data, including drawings and documents were linked through PACE OS work packages providing greater visibility and the ability to create, track and control the design deliverables.

Teknobuilt collaborated with the flow bridge team to pinpoint the existing workflows and prominent issues encountered by stakeholders. In order to ensure the repeatability and scalability of the flowbridge design process, a simplified and easily comprehensible workflow was developed. Many of the manual hurdles associated with the 3D model workflow were mitigated through automated processes by establishing dynamic links between the two 3D modeling software. Additionally, project data such as drawings and documents were interconnected via PACE OS using work packages, enhancing visibility and facilitating the creation, tracking, and management of design deliverables.

PACE OS - Revolutionizing Project Management Efficiency

The existing design process was mapped and integrated into Teknobuilt's digital platform, with a detailed understanding of **data collection, project setup, reporting, and tracking**. Deep inquiry process mapping was undertaken, integrated into the digital survey process for both internal and external clients. Inquiry forms were designed in the PACE OS platform, tailored to general and bridge-specific requirements, aiming to **create a comprehensive database and eliminate miscommunications**. A design and document deliverable management system was deployed on the PACE OS platform for up to 15 users, **facilitating communication** among the design team, architect team, manufacturing supply chain, and quality team. This **ensured timely document access and communication** of changes in near 'real-time', **minimizing revision issues and misalignments**. Additionally, an action tracker was implemented to allocate and track deliverables at all project stages by designated team members.



Values Delivered



**Process
Automation**



**One Unified
Platform**



**De Risk
Cost**



**Action
Management**

Teknobuilt's revolutionary digital construction blocks propelled forward, surpassing traditional activity-based planning, thereby fostering **Predictability, Precision, and Trust in delivery**. Through PACE OS, a newfound clarity emerged, **offering visibility** into the work scope **via seamless data integration, transformation, and standardization of safety methods**. Moreover, it facilitated the generation of alerts within the workflow, ensuring timely responses and enhanced operational efficiency.

This transformative shift heralded a new era in construction management, where technological advancements not only streamline processes but also instill confidence in project outcomes. With Teknobuilt at the forefront of innovation, the construction industry witnessed a **paradigm shift towards a more predictive and precise approach**, setting a new standard for **excellence in project execution and delivery**.

Teknobuilt also provided the following benefits:

- Designed a repeatable accountable workflow process
- Effective use of softwares and tools
- PACE OS for the development of the Flow Bridge
- Helped the team to move from prototype mode to delivery mode
- Improved operational efficiencies
- Reduced project cost

Expert Transformers

Teknobuilt's proficient team adeptly addressed and managed challenges faced during the Network Rail project. Their collaborative approach and diverse skill sets transformed obstacles into opportunities, underscoring Teknobuilt's dedication to excellence and adeptness in navigating complex projects. This achievement reinforces our standing as industry leaders, establishing a benchmark for upcoming projects and spotlighting our team's ability to overcome hurdles with efficiency.



Nishant
Rao

Program Manager

Seamless execution of the project, aligning actions with Network Rail's strategic goals



Charlie
Foster

Innovation

Stakeholder and ASIs process flow mapping



Glory
Gujral

Productivity Engineer

Deep inquiry process mapping and Platform setup

About Teknobuilt



Teknobuilt is transforming the way projects are built and operated with an unmatched digital assurance in meeting delivery timelines. With the vantage of Teknobuilt's unified digital platform - PACE OS products and services, the accelerated execution efficiency, standardization and predictability can help retrieve up to 8 to 20% as actual cost reduction from the estimate.

Owners and builders especially during the execution often end up where the information is delayed, or remain in the dark - not knowing the true project status. Not until additional funds are needed or delays become unmanageable.

Eliminating the siloed execution, overcoming organizational systems and data fragmentation; PACE works continually to de-risk the scope and the digital execution framework has an impact where "the sum is greater than the parts" across owners, engineering, suppliers, and contractors.

Empowering Decision Makers:

New projects or the ones already in design or even those where the construction has started, PACE platform features a unique block-based map to help navigate the entire ecosystem of a project from design to delivery. With the unprecedented power to look at the entire value chain using PACE Digital Control Tower™, decision makers have the instantaneous visibility, predictability, and proactive execution control with data-driven intelligence as never experienced before.

Teknobuilt's vision is to help the world build better - safely, smartly, and sustainably. Block by block, the transformative approach to deliver **speed, surety, and savings** is reshaping the landscapes of how projects are built and operated.

We are committed... Let's build better!

TEKNOBUILT



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Inspired by Network Rail's success story?



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