

## **CONSTRUCTION ENGINEERING MASTERS DISSERTATION ABSTRACT**

### **Does the UK Construction Industry need to develop a plan for the future of Temporary Works?**

In July 2013, the UK Government published Construction 2025, an ambitious document developed jointly by the Government and industry, whose aim is to effect a radical transformation in the British construction industry by the year 2025. The publication's goal is to change an industry that is seen as being plagued by late delivery, cost overruns, commercial friction, poor payment terms, accidents, lack of diversity, and resistance to innovation into an efficient, technologically advanced and sustainable industry that will be known for its talented and diverse workforce and for its low-carbon and green construction exports. To this end, Construction 2025 sets challenging targets to be achieved by Government and industry by 2025: 33% reduction in both the initial cost of construction and the whole life cost of assets, 50% reduction in the overall time from inception to completion for new build and refurbished assets, 50% reduction in greenhouse gas emissions in the built environment, and a 50% reduction in the trade gap between total exports and total imports for construction products and materials.

This dissertation postulates that implementation of these objectives by 2025 will require a detailed innovative plan for new forms or mechanisms to design and control Temporary Works (defined in BS5975: 2008+A1: 2001 Code of Practice for Temporary Works Procedures and the Permissible Stress Design of Falsework as "parts of the works that allow or enable construction of, protect, support or provide access to, the permanent works and which might or might not remain in place at the completion of the Works") and examines the Temporary Works barriers that might prevent the construction industry from achieving its 2025 vision. The potential barriers were identified through research and compiled into a detailed questionnaire to be answered online, on paper and through one-on-one interviews with industry leaders and Temporary Works professionals, asking respondents to rank the barriers in order of perceived significance.

The results indicate that Temporary Works constitute a highly specialised function which directly influences current construction practices, and that there are several areas of Temporary Works, which can be improved to make the construction process more efficient. For example, Building Information Modelling is not being used to its full potential. Temporary Works designers and suppliers for various reasons are not fully embracing BIM and Temporary Works has not been identified as a target area by the UK Level 3 Building Information Modelling Programme, Digital Built Britain (2015). Failure to make improvements in these areas will adversely affect the 2025 vision.

The dissertation concludes with recommendations to construction professionals on how improvements in Temporary Works management and procedures can assist in achieving the vision of Construction 2025.

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