



Managing the Golden Thread



Survey Reveals the Key Elements
of (and Hurdles to) a **Connected
Construction Data Environment**
for UK Contractors

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Trimble
Construction



Foreword

Managing the Golden Thread is a report from construction software solutions provider Trimble Viewpoint EMEA and *Building Magazine*.

The UK construction industry has been facing increasing pressures to standardise its approach to project management, from supply chain sourcing to repairs and maintenance. High profile disasters such as the Grenfell tower fire have highlighted the dangers of an incomplete—or missing—audit trail of project information.

The way construction projects are managed is set to face a major shake up, with firms working in the built environment preparing to operate in a completely new regulatory environment. The Building Safety Bill, which is currently part way through the process of becoming legislation, is set to ensure the safety of the UK's built assets moving forward. And the golden thread, a digital record of all key building information, is a central part of these reforms.





What is the **Golden Thread of Data**?

Put simply, the golden thread is the concept of a thorough and complete audit trail that is made up of quality, up-to-date information throughout a construction project. This requires information on from where materials sourced in the supply chain through to project completion and maintenance. Therefore, identification, collaboration and clarity are key to the golden thread being successful. Although a simple idea, many projects are unable to put this into practice for a variety of reasons, ranging from using paper-based methods to working in isolated teams.

There are many ways that the thread of information can become broken. At a project communication level, using email or basic file sharing platforms can cause out of date information to be shared, or files to be misplaced altogether. When on site, using paper to record and sign off snags, write up health & safety reports, or sign off the day's work, also increases the chances of lost and inaccurate information. Making sure that all teams are viewing the same up to date information is vital to achieving the golden thread. How does this translate to real-world projects? The construction firms surveyed for this report provided some interesting insights.

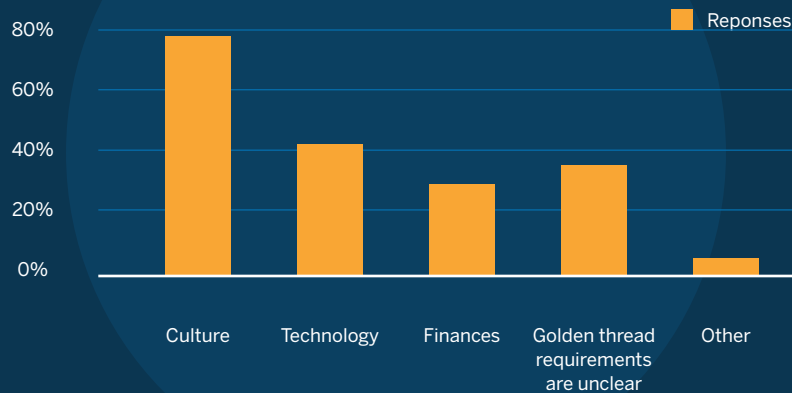


Key findings

A cultural barrier within the construction sector, an industry long maligned for its disjointed and siloed approach, was adjudged to be the most significant barrier to maintaining an accurate audit trail on projects when firms were asked to look at the industry as a whole. Almost 80% of respondents said it was a hurdle that needed to be overcome.

Industry-wide, which of the following do you consider to be challenges to maintaining an accurate audit trail?

(Please select all that apply)



Ben Wallbank, BIM strategy and partnerships manager at Trimble Viewpoint, says: “We often talk about teams on construction projects working in silos and the benefits of breaking these down.”

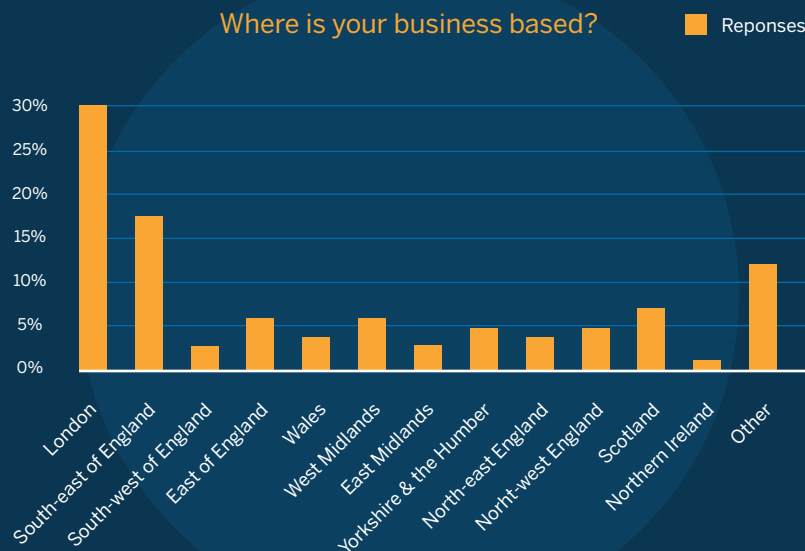
However, asking respondents what the biggest challenge was for their own firms produced a different answer. Culture was still deemed to be a significant barrier, with 46% of people raising it as an issue. But supply chain collaboration and identification of the duty holder as defined by the golden thread—that is, the person responsible for ensuring the audit trail’s veracity—were deemed just as significant, at 49% and 45% respectively.

And this is where implementing the proper procedures, supported by the proper tools, becomes key. On this point Steve Underwood, chief operating officer at Birmingham-based contractor Colmore Tang, says it is imperative that firms do not work in isolation and are aware of what everyone else on the project is doing. “We run an open system that allows subcontractors to see exactly where other subcontractors are,” he says. “What that does is promote a spirit of collaboration between the subcontractors.”

About the Survey

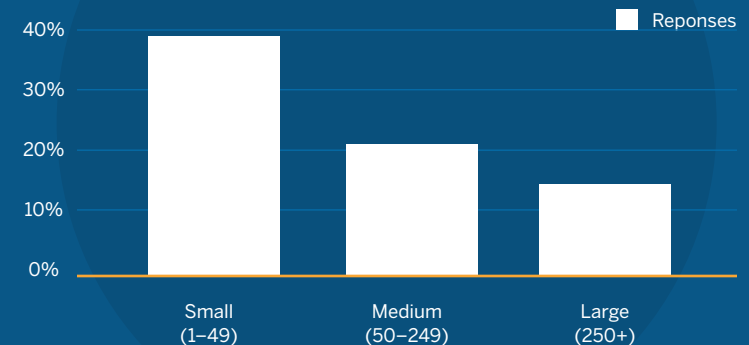
Between February 11 and March 3, 2022, Trimble Viewpoint and *Building Magazine* surveyed 86 individuals working in the UK construction industry to learn what they and their firms have in place for audit trails, as well as their confidence in their firm's understanding of the term 'golden thread'.

Respondents were from across the UK, with almost a third working in London, followed by Southeast England, and Scotland. The "Other" category encompassed regions such as East Midlands, North-East England and Yorkshire and the Humber, respectively.



Although nearly 40% of respondents were from small businesses with fewer than 50 employees, there was a varied spread of respondents across business size. An almost equal number of firms surveyed classed themselves as "Contractor" or "Consultant," with 23.3% and 26.7% respectively. The "Other" respondents included sectors such as fire and rescue, building control, and local authorities.

What is the size of your company (by staff number)?



Job titles of the individuals included a variety from Managing Director to Project Manager, and Technical Director H&S Manager. As not everyone included their job title, there is not enough data to draw any conclusive insights based on job areas. Therefore, this report will focus on sector-specific conclusions when necessary.

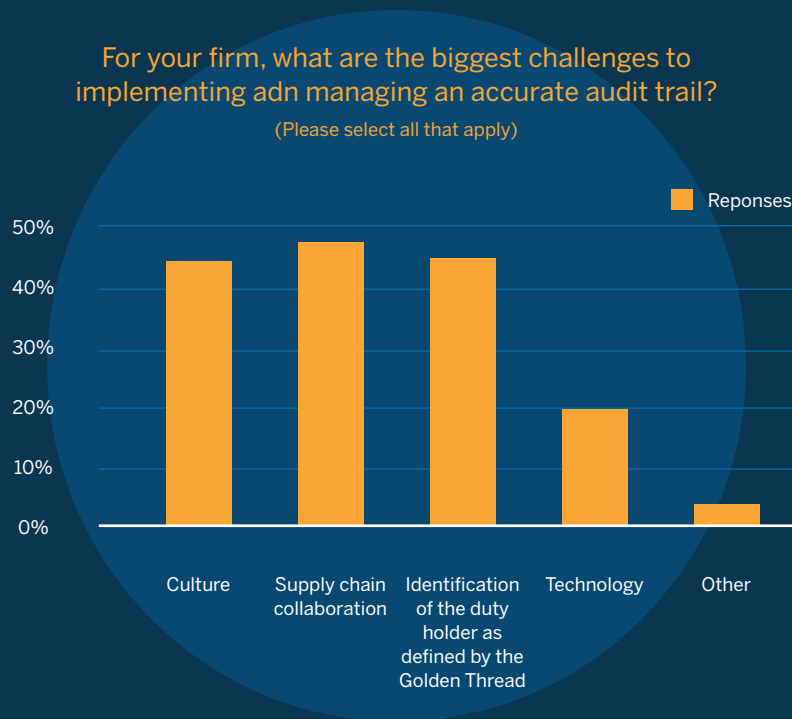


The 3 Keys to a Connected Construction Data Environment

Brief intro: The construction professionals surveyed for this report singled out three key elements they viewed as vital for a connected construction environment that promotes and maintains the Golden Thread of data: culture, training and education, and technology. Coincidentally, these were also the biggest internal hurdles that needed to be overcome.

One: Culture

An overriding theme of the survey was the culture and how this might be affecting change management within the industry. It was touted as the main obstacle to achieving accurate audit trails industry-wide with 77.3% of respondents believing so. Interestingly, when asked the same question at a company level, only 44.1% of respondents believed it to be an obstacle.



“Culture” is subjective and often used as a catch-all term, which makes it difficult to set out a method to tackle issues within this. It could also explain why, at an industry level, respondents called it out so strongly.

In reality, all firms will operate slightly differently on a day-to-day basis, and much of this goes beyond how audit trails are managed. This is where implementing a consistent approach becomes trickier, as a three-person electrician team might consider themselves a much different operation to a 250+ employee main contractor, and vice versa.

However, there is a general consensus amongst the industry of where it would like to see itself, with 81.4% of respondents believing that an accurate audit trail could improve accountability around work carried out.

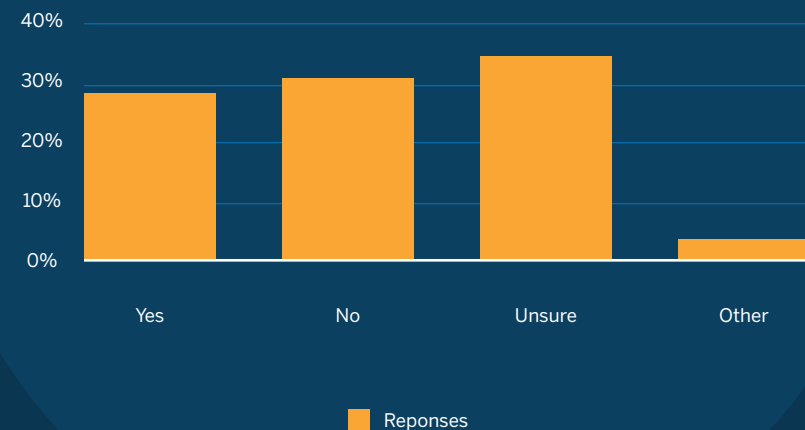


Two: Training and Education

This leads onto another heavily mentioned topic throughout the survey: training and education. There is clearly an understanding that processes in the industry need to be evaluated and changed.

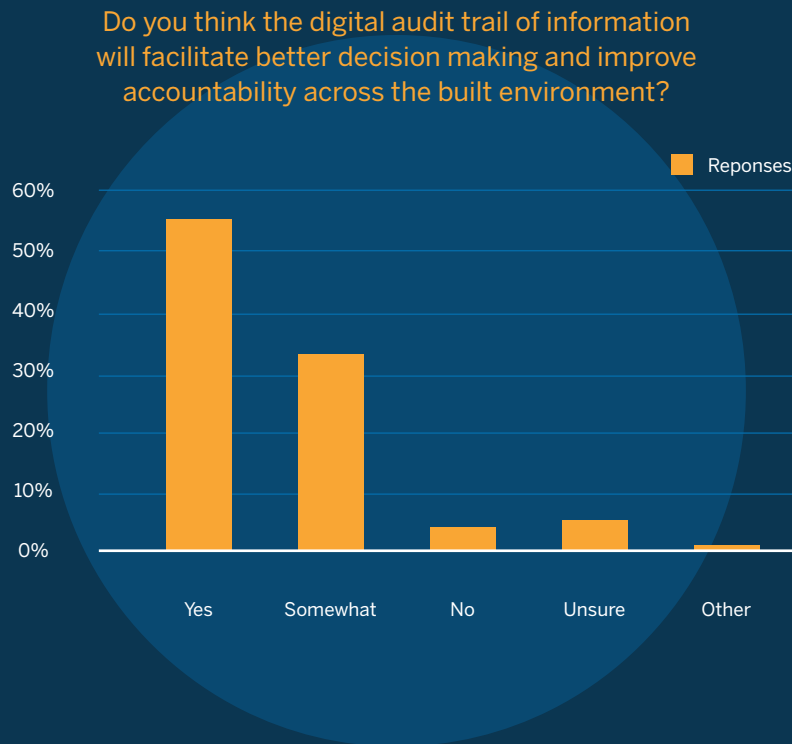
For example, more than a third of respondents (37.6%) felt that the industry did not have the required processes in place to assess a tenderer's fire safety competence. When asked about their confidence in their firm's understanding of the golden thread of information on a scale of 0 to 10, the average rating was 5. In practice, this appears as inconsistent audit trail approaches from site to site.

Has/will your organisation needed/need to hire new staff or seek help from a consultancy to understand and deliver the Golden Thread on its new and existing projects/assets?



Three: Technology

The role of technology in achieving consistent audit trails is well known. 89.5% of respondents recognised that a digital audit trail would improve decision making and increase accountability through the built environment, with 55.8% answering yes and 33.7% somewhat.



Responses on tools and resources that could aid audit trails included “suitable software,” “common data environment,” and “simple, easy-to-use technology.”

As a minimum, files need to be held digitally for firms to hope to adhere to golden thread guidelines. However, the individuals surveyed believed that technology alone could not bring about the changes needed. Software solutions are an aide to not only simplify audit trails and documentation, but also generally improve how projects run.

Breaking down barriers of communication during projects stops teams from working in isolation and gives the bigger picture of a project and the importance of first-time quality for project timescales.

Conclusion

Government guidance, industry standards, training, and software vendors all play a part in reshaping the culture that construction finds itself battling with. In order for digital audit trails to become the norm, they need to be simple, accessible, and repeatable. It is clear from survey responses that some firms may feel overwhelmed by too much information.

Construction as an industry knows its shortfalls, and knows how this has happened. The challenge, it seems, is for a consistent approach from project-to-project, and embracing more modern technologies to connect and share data, streamline workflows, and improve project visibility and accountability.

To summarise this, Trimble Viewpoint's Wallbank says: "The more transparent, real-time and collaborative a project can be, the more beneficial the golden thread can be for everyone."

With all these factors in mind, it is clear that firms need to look at the challenges they will face in implementing the digital audit trails needed for the golden thread and what they can do to tackle them in order to reap the benefits that could be achieved.





ABOUT TRIMBLE VIEWPOINT

Trimble Viewpoint construction software solutions, part of Trimble Connected Construction, allow contractors to better manage their projects, processes and people, using the data gathered to lower risk and improve margins. Trimble Viewpoint innovations are transforming the construction industry by connecting operations across financial and HR systems, project management tools and mobile field solutions. For more information, visit: www.viewpoint.com



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