PLAIN LANGUAGE GROUP

Digitisation of Construction Product Manufacturers

A report of research into senior manager's views

Plain Language Group

January 2025

Foreword

Construction product data is vital to the safety and performance of our built environment. This was clear when we published our plain language guide to digitisation in 2021.

The need for structured product data is now apparent in the Ecodesign for Sustainable Products Regulation (ESPR), in Digital Product Passports and the revised Construction Product Regulation, and in the need for systemic change as evidenced in the Phase 2 Grenfell Inquiry Report.

We commissioned the qualitative research summarised in this report to find out what manufacturers think about digitisation of product information.

80 per cent of the 80 manufacturer leaders interviewed for this research understood the importance of digitisation, however only a few placed it highly in their priorities, well behind other pressing concerns. There is a predominant lack of understanding of what digitisation means, and the findings also suggest that confidence about digital adoption is misplaced.

Whilst we should celebrate those that are changing, we must address the lack of urgency the majority of manufacturers place on digitisation. Those who have made progress must help raise the others to a similar level of awareness, and government could be a catalyst for change.

When the true picture is not what we want to see, it's uncomfortable. We may be tempted to preserve appearance over making progress; to take a defensive posture instead of leading change. But without honest, reliable evidence, our policymakers cannot be effective.

Construction product manufacturers provide much of the vital data with which we work. Their digitisation is essential to our safety. We must help them do it.

About the Authors

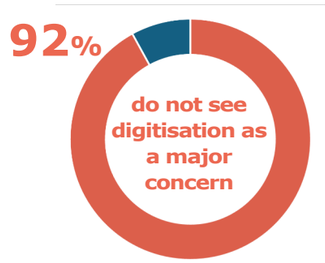
This work was commissioned by the Plain Language Group, which was originally part of the Built Environment Expert Panel of The Institution of Engineering and Technology (IET).

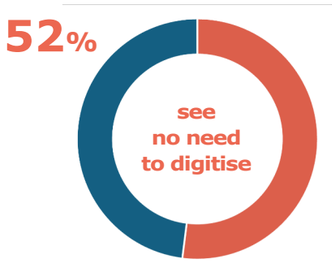
The group is:

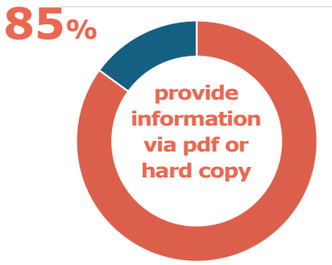
Rick Hartwig, former Built Environment Lead, IET.
Su Butcher, Director, Just Practising Limited
Paul Surin, Head of Digital and IT at TROJENA
Patricia Massey, Digital and Technology Manager, BEAMA

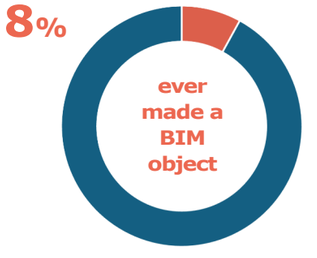
Our thanks to Mustard for their support.

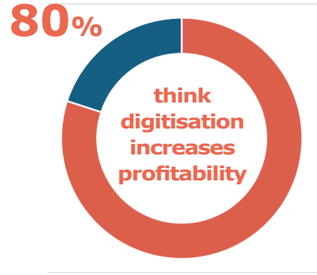
To contact the PLG team please email plg@justpractising.com











Summary and Recommendations

In the Spring of 2023, the Built Environment Panel of the Institution of Engineering and Technology (IET) commissioned a qualitative survey of C Suite level individuals who work in companies selling construction products into the UK Market.

The purpose of the research was to

- Provide insights into the challenges manufacturers face.
- Understand where manufacturers are with their digitisation journey and their plans to digitise further.
- Explore whether manufacturers understand what the benefits of digitisation are, as well as identifying the barriers.
- Understand whether manufacturers have the skills and expertise needed in-house to digitise.

Over the previous five years several white papers and studies had been published into the topic of digitisation in the construction products sector. These include:

- The Future of Construction Product Manufacturing (Construction Products Association 2016)[1] which set out how a digitised UK construction product sector was required to play a critical role in the modernisation of the construction sector as a whole, and how that might happen.
- A Fresh Way Forward for Product Data: State of the Nation (UK BIM Alliance 2018)[2] which set out why product data was not traveling through the supply chain, and the implications this might have on a 'Golden Thread' of information about buildings, and
- Digitisation for Construction Product Manufacturers: A Plain Language Guide (IET 2021)[3], which sought to show how product manufacturers could begin the process of digitising the information they provide to the supply chain, potentially breaking the logjam.

These documents set out the importance of structured data about construction products and systems to the modernisation of the construction industry into a digital sector capable of meeting the challenges of building safety, traceability and the needs of a zero carbon UK economy.

[1] The Future of Construction Product Manufacturing, Construction Products Association, October 2016
[2] A Fresh Way Forward for Product Data: State of the Nation, UK BIM Alliance, October 2018
[3] Digitisation for Construction Product Manufacturers: a Plain Language Guide, Institution of Engineering and Technology, October 2021.

However, the research set out in this report suggests that:

- The digitisation/digital product information message is not filtering through to construction product manufacturers, especially SMEs who make up the majority of the sector.
- Key priorities for manufacturers without a commercial incentive to digitise remain their short-term commercial concerns.
- There is a major lack of understanding of what digitisation of construction product information is (joining up sources of information to provide a reliable source, sharing digital information with the supply chain) or why it will be essential to meet client requirements for building safety, product tracing, sustainability etc.
- The need that manufacturers will have for external consultancy in an environment of such ignorance is a potential vulnerability and a risk of exploitation if the profile of construction product information digitisation is raised in a way that doesn't help manufacturers make informed choices. SMEs are especially not in a position to be able to afford to make mistakes.

Our recommendations are therefore that:

1. Manufacturers and their trade associations need to be educated about the benefits of digitisation both to their businesses and to the supply chain. The first step is to enable acceptance and recognition of the importance of digitisation.
2. There will need to be a specific requirement for change to happen if manufacturers are to digitise. Government could be a catalyst for change with the right interventions.
3. Any initiative to provide a requirement to digitise should start with priority products and require manufacturers to provide information they already have. For example, providing compliance information from their Declaration of Performance (DoP) or Conformity (DoC) in electronic format to a database or portal which could be used to research products.
4. The Ecodesign for Sustainable Products Regulation (ESPR) will require Market Surveillance Authorities to ensure products are safe, sustainable and compliant. The UK must develop and resource a national strategy for market surveillance and provide clear direction to support and guidance, to ensure that manufacturers can participate with confidence.

Methodology

This research was carried out by Mustard Market Research Limited, a professional market research agency member of the Market Research Society, which champions the highest ethical, commercial and methodological practices in research.

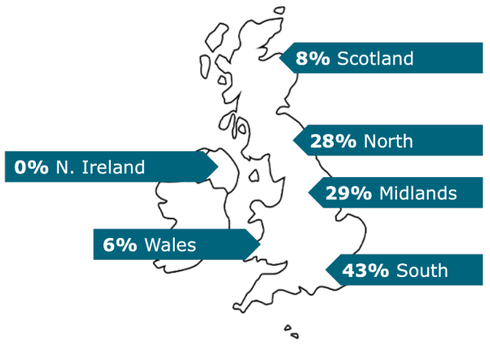
Telephone interviews were carried out with 80 C Suite level individuals who work in companies selling construction products into the UK Market.

80% of the survey sample were in the UK, spread across Great Britain (fig 1). 52% believe they supply safety critical products. 72% had 24 employees or fewer. (fig2) The sample size bears a relatively close resemblance to the distribution of size of manufacturer businesses by employees set out in the Morrell Day Review[1].

Following the initial survey and a review, follow up in depth qualitative telephone interviews were carried out with four respondents, based on their range of responses.

The fieldwork for this research was carried out between October and November 2022. The interviews were carried out between January and March 2023.

Region



Western Europe	8%	North America	3%
Eastern Europe	4%	South America	1%
Asia	4%	Other	3%

Size of the business (by number of employees)

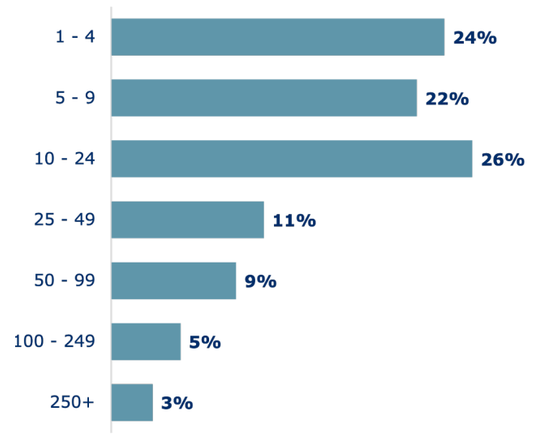


Fig 1. In which region(s) is your company based?
Fig 2. About how many people work for this company?
Base: 80 respondents

[1] Testing for a Safer Future: Independent Review of the Construction Product Testing Regime, Department for Levelling Up, Housing and Communities, Section 8.2 The Construction Products Sector.

Key Findings

There follows an outline of key findings of the research. Further information can be obtained by contacting the authors.

Digitisation is of low priority to construction product manufacturers

Construction product manufactures are very focused on short-term challenges, with longer-term issues such as compliance, digitisation and sustainability considered to be minor, rather than major concerns (fig 3). Digitisation scores much lower than compliance or sustainability, when it will be a key factor in the success of such ventures.

53% of companies that didn't list compliance as a major concern had fewer than 10 employees, compared to 30% of companies that considered it a major concern.

Whilst cost and inflation challenges were front of mind for the qualitative participants, there were also broader concerns around staffing and certification.

Manufacturer priorities

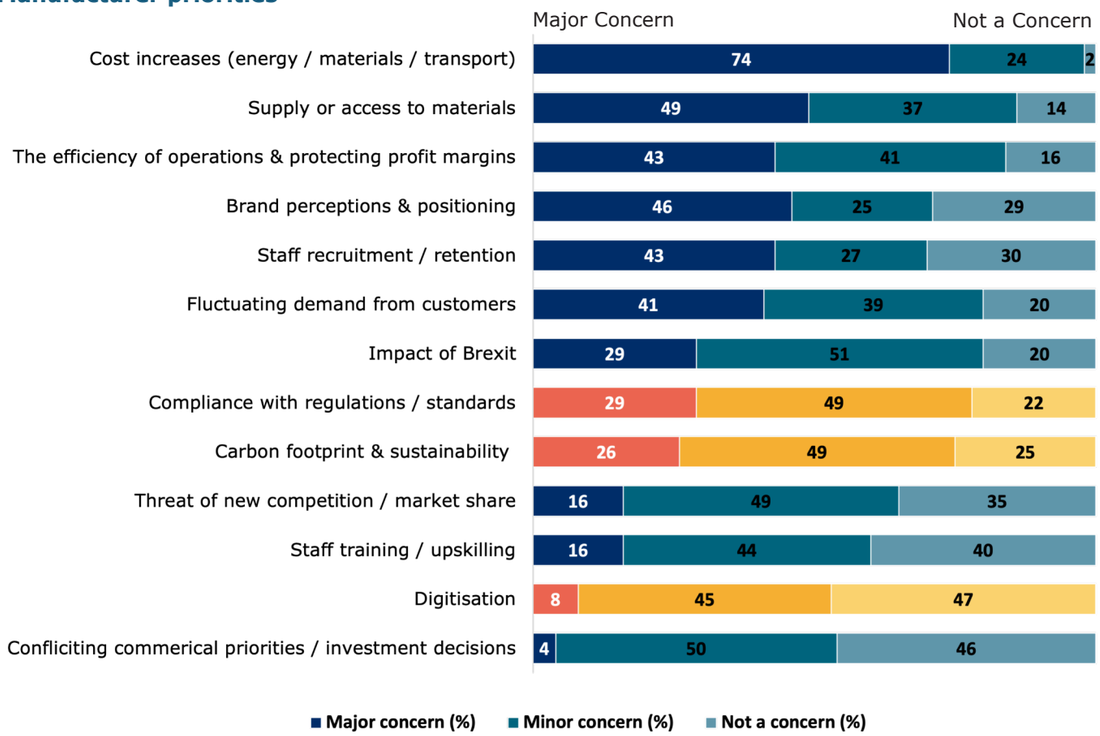


Fig 3: For each challenge, please tell me whether it is a major concern, a minor concern, or not a concern for your business at the moment. (Orange bands are highlighted for visibility)
Base: 80 respondents

Manufacturers do not understand what Construction Product Digitisation is

Manufacturers (with a few exceptions) think digitisation means either administration and accounts or emerging technologies (robotics and AI - fig 4). The digitisation of construction product information is not on their radar.

Manufacturers are not thinking about digitisation in the context of safety critical information, compliance information, or giving the supply chain structured product data.

When asked about which third-party enterprise-wide product information platforms or services they use, they refer to Office, Sage, MS Dynamics and Xero. 25% identify no third-party platforms. 63% don't use external systems to share product information.

Being paperless

'Less paperwork, more electronic use of the type of stuff and going green.'
10–24 employees, Brick / Block / Cement, DE - 5

'It is what we have to do with billing, VAT and we do all that digitally.'
1-4 employees, Fencing, DE - 8

Having an online presence

'Social media, online presence and branding.'
25-49 employees, Windows / Doors / Glazing, DE - 2

'It is more to do with e-marketing, e-trading and e-commerce, none of which affect us as we do not sell our products on our website.'
1-4 employees, Lighting & Electrical, DE - 8

Using computers

'Everything is on the computer. We are all linked to that and we cannot function without it.'
10-24 employees, Metal work, DE - 10

'Computers and stuff.'
10-24 employees, Timber & Joinery, DE - 2

Fig 4: What does 'digitisation' mean to you?
Base: 80 responses

Manufacturers overstated the level of their digitisation

We asked the respondents how far they were on their digitisation journey. Just over half (50%) felt they were digitised to some extent. However, even when provided with the definition of digitisation (see page 12 of this document), few of the respondents fully grasped and understood what it meant in practice.

Those that scored themselves highly on the digitisation scale appeared to assume that it simply meant using computers or having online systems and processes. There was a tendency to associate digitisation with manufacturing automation rather than data automation and integration. This makes it challenging to understand how far construction manufacturers are with their digitisation journey. It's likely that many over-reported their progress.

Manufacturers do not understand why they should be concerned

We asked manufacturers to score themselves on a digitisation journey from 0-10 where 10 is fully digitised and 0 is not digitised at all.

Nearly two thirds (63%) of manufacturers who don't think they are particularly digitised (scoring themselves 6 or under), don't think digitisation is a priority. Over half of all respondents consider digitisation a priority to some extent, with those further along with their digitisation journey having the strongest intentions overall (fig 5).

There are many barriers to digitisation, with some organisations not convinced the cost is worth it, whilst for others the level of investment needed was out of reach. A lack of knowledge, skills and internal resource is also a barrier to digitisation that the many of the organisations will need to overcome.

The extent to which digitisation is a priority

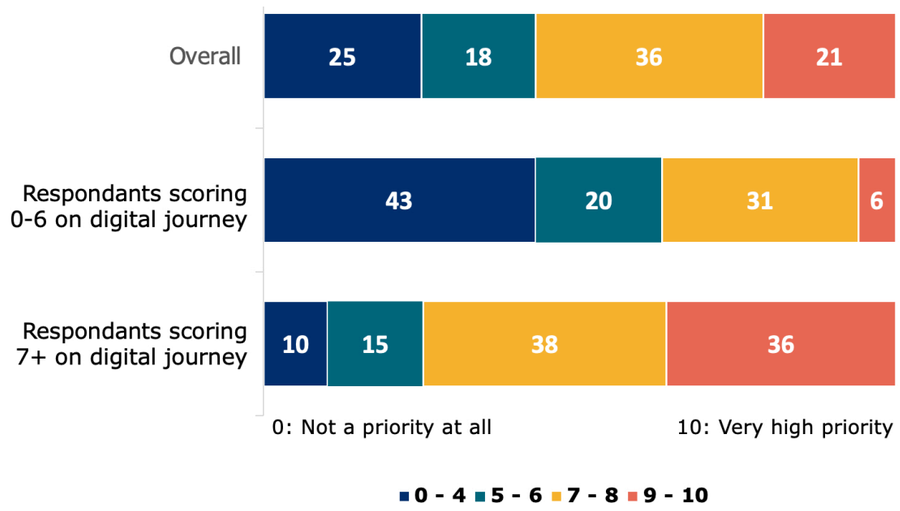


Fig 5: How much of a priority is digitisation to your business? On a scale of 0 – 10, where 0 is NOT a priority and 10 is a very high priority?
Base: 77 respondents (excluding 'don't know'), Scoring themselves 0-6 on their digitisation journey 35 respondents, scoring 7+ on their digitisation journey 39 respondents

Manufacturers see the benefits of digitisation

80% of manufacturers think that digitisation increases efficiency and profitability and described this as the main benefit (fig 6). They also selected other benefits including managing the supply chain and sourcing materials, managing costs, sustainability and compliance. 82% considered that digitisation made strong commercial sense (fig 7)

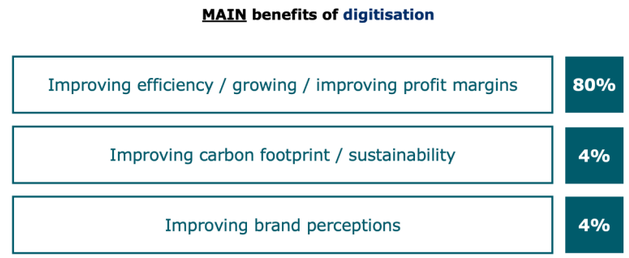


Fig 6. Thinking about the business challenges we discussed earlier, what would you say is the one MAIN benefit of digitisation? Base: 80 respondents

Manufacturer views on digitisation

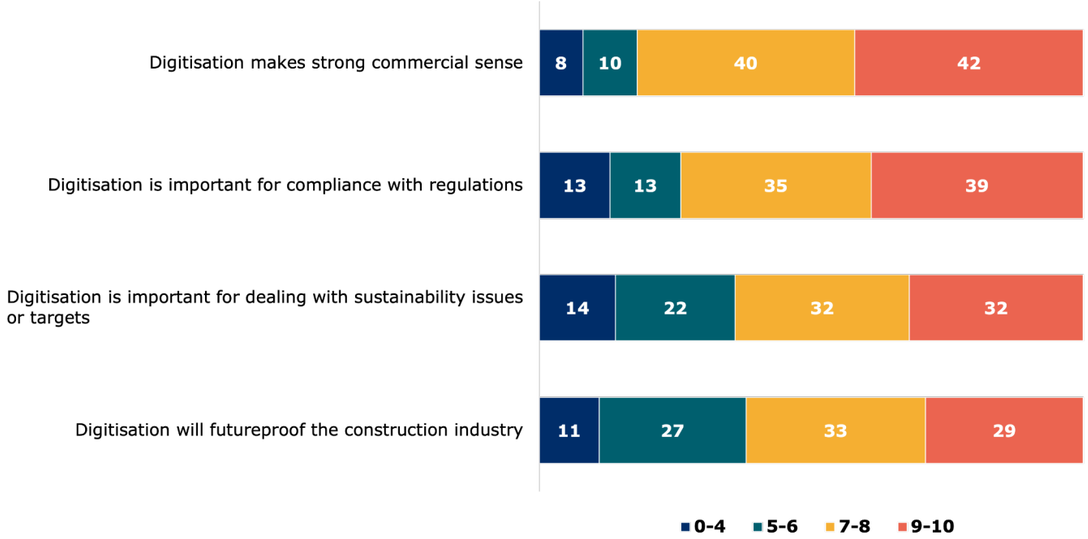


Fig 7. To what extent do you agree or disagree with the following statements, on a scale of 0-10, where 0 is strongly disagree and 10 is strongly agree?
Average base: 78 respondents (excluding 'don't know')

Manufacturers provide product information via analogue systems

Whilst they can see the commercial benefits of digitisation, the vast majority of manufacturers provide their product information via PDFs/printed documents or a manually updated website. A third selected spreadsheets, inferring a lack of digitisation (fig 8).

Only a fifth had their product information updated in real-time, indicating that for most businesses, this was a manual process (fig9). It is unlikely that there is a reliable connection between updating products and updating product information in the supply chain.

Ways in which product information is supplied to customers and suppliers

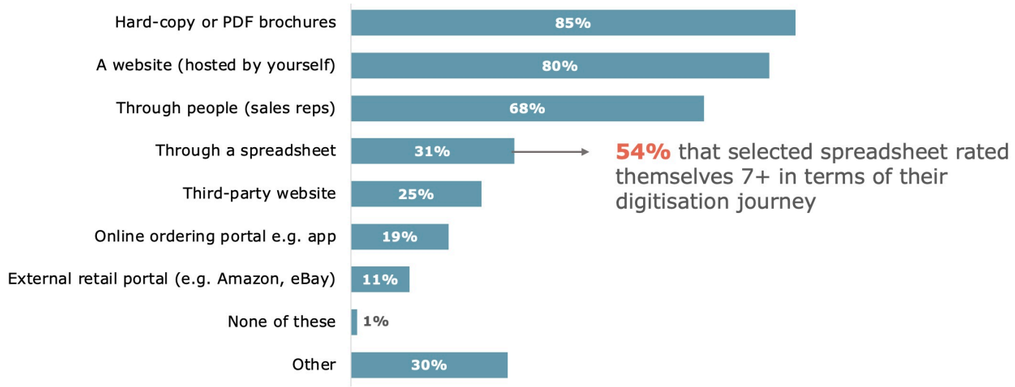


Fig 8. In what ways do you supply product information to customers e.g. distributors, installers, contractors and building owners?
Base: 80 respondents

Frequency of product information updates

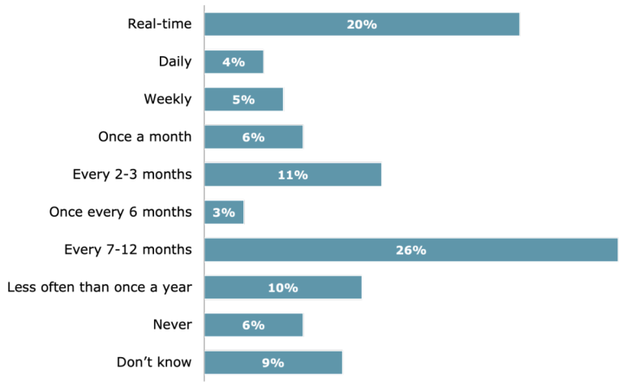


Fig 9. How regularly do you update your product information supplied to customers? (%)
Base: 73 respondents (excluding 'don't know')

Manufacturers did not commission BIM Objects

Only 8% of interviewees have produced or commissioned BIM Objects (fig 10).

Of the 6 organisations that had produced BIM objects, 4 had 25+ employees suggesting a large company size compared to the average.

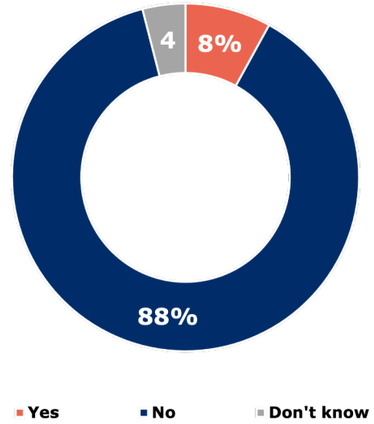


Fig 10. Has your organisation ever produced or commissioned building information modelling (BIM) objects?
Base: 80 respondents

To digitise further, manufacturers would need external support or training

Just over one half of manufacturers are planning to digitise their company further within the next 2 years.

For those planning to digitise further, the majority felt that they did not have the skills needed in-house to digitise, which meant there was a strong expectation that they would commission external support (81%), send current staff on training (53%) or recruit new members of staff (44%).

However, a significant number (21%) feel there is no need to digitise or they do not have the money or resources to invest (fig11).

Interviews suggest any further digitisation would have to genuinely provide a solution to a problem or make a significant impact on business efficiency. Manufacturers are more likely to invest elsewhere (product development, factory extension) rather than in digitisation.

With an uninformed C Suite, manufacturers seeking consultancy or training support are potentially vulnerable to making poor investment decisions.

Barriers to further digitisation

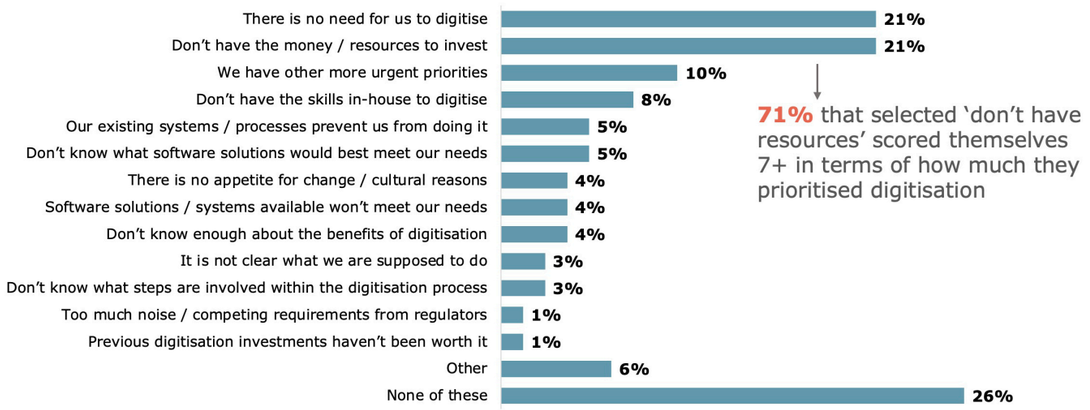


Fig 11. What, if anything, is preventing your organisation from digitising?
Base: 80 respondents

What is Digitisation?

Digitisation is turning your analogue and disconnected data into connected, digital form. It's about connecting your sources of information together so they can work for your business more efficiently and effectively.

A digitised construction product manufacturer has a holistic data strategy that applies to all parts of its business, from operations to sales and marketing to logistics and to its upstream and downstream supply chains. With structured data, you will not have conflicting or duplicate information.

Examples of digitised work practices include:

1. Product information on a company's website is not updated manually but fed directly from company product information management (PIM) through an API connection.
2. Sample requests are handled through connected CRM and product databases, rather than requests being emailed, printed out and actioned.
3. Certificates are downloaded from a verified website with change history, rather than a potentially out of date certificate emailed from a salesperson's computer.

Digitisation is the first step to compliance
Digital transparency is the key. Structured, secure, verified and interoperable product information is one of the key pillars of the golden thread.

Digitisation supports integrity
It's only through digital transparency that industry and society will be able to confidently confirm the compliance of products, systems, spaces, assets and associated services. Digitally transparent manufacturers will demonstrate their commitment to integrity.

Digitisation makes commercial sense
A manufacturer providing accurate, structured product data is more resilient, profitable, more efficient, more stable and more reliable.

Digitisation future-proofs the industry
In the future, zero-carbon initiatives and Smart/ Cognitive cities will also require traceability of products and evidence of conformance. Making structured information available to the supply chain is an essential step in this process and essential for manufacturers to future proof their business and connect with the end customers and end users.

PLAIN LANGUAGE GROUP

The Plain Language Group
c/o Just Practising Limited
31 Wittonwood Road Frinton on Sea CO13 9JZ
plg@justpractising.com

www.justpractising.com/plg