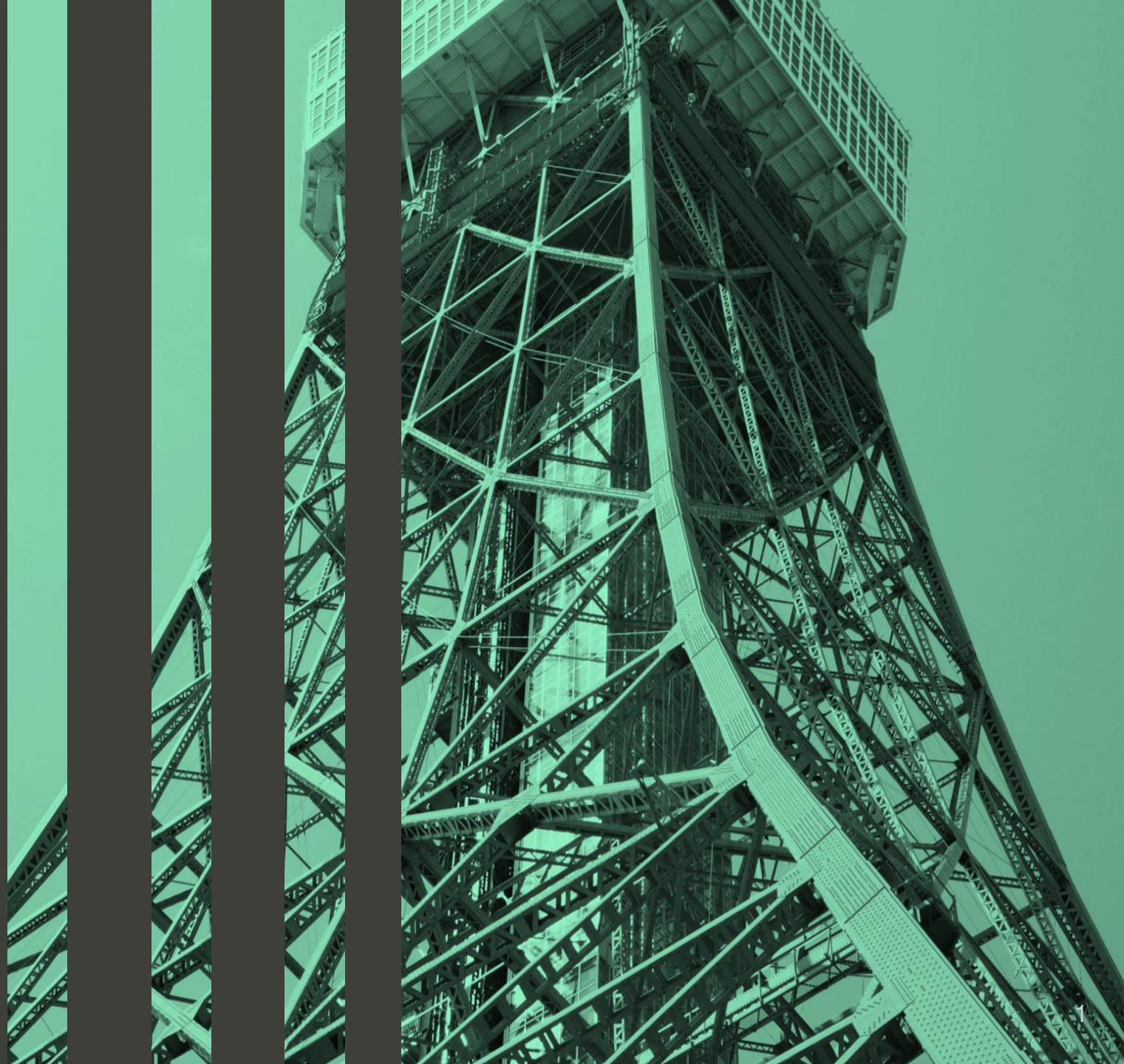
The Institution of Structural Engineers

# 2026 - Digital Engineering Survey Results

Advancing structural engineering through technology: Digital innovation for a safe and sustainable profession



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# Introduction

Digital tools are now embedded throughout structural engineering practice. The survey found widespread adoption of technologies such as spreadsheets, Building Information Modelling (BIM), Finite Element Analysis (FEA) and automated design software, demonstrating that digital workflows have become an established part of the profession.

At the same time, the results reveal significant differences in how digital technology is being adopted. Organisation size, geography and access to digital skills continue to influence the use of more advanced capabilities such as scripting and automation.

The findings suggest that while digital engineering has become mainstream, the profession is entering a new phase of maturity. The challenge is no longer whether digital tools are being used, but how effectively organisations can develop, manage and integrate them into everyday engineering practice.

Based on 174 responses from structural engineers, academics, students and BIM professionals around the world, this report highlights the key trends shaping digital engineering today.

**Calum Lockhart**
Digital Engineering Lead



# Structural engineering runs on spreadsheets

Spreadsheets are structural engineering's most important digital tool

While attention is often focused on emerging technologies such as automation, artificial intelligence and computational design, spreadsheets remain the foundation of digital engineering.

The survey found that almost all respondents use spreadsheets, with the majority relying on tools created wholly or partly by others. Only a small proportion use spreadsheets that they have developed themselves.

The continued importance of spreadsheets demonstrates that successful digital engineering depends not only on new technologies, but also on the effective management of the tools already embedded within everyday practice.

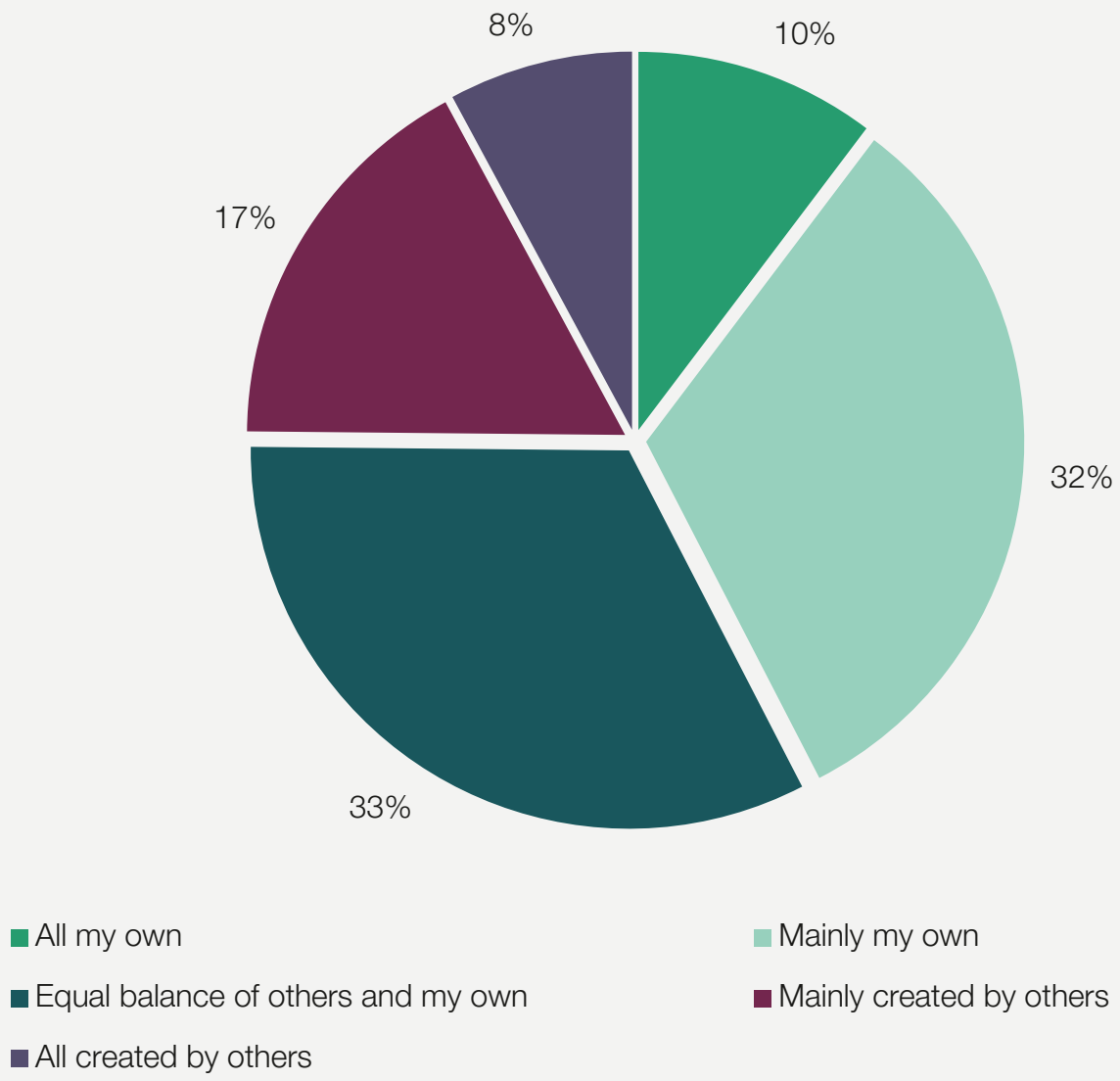



Chart 1: The use of spreadsheets created by others.

# The BIM gap is not about age

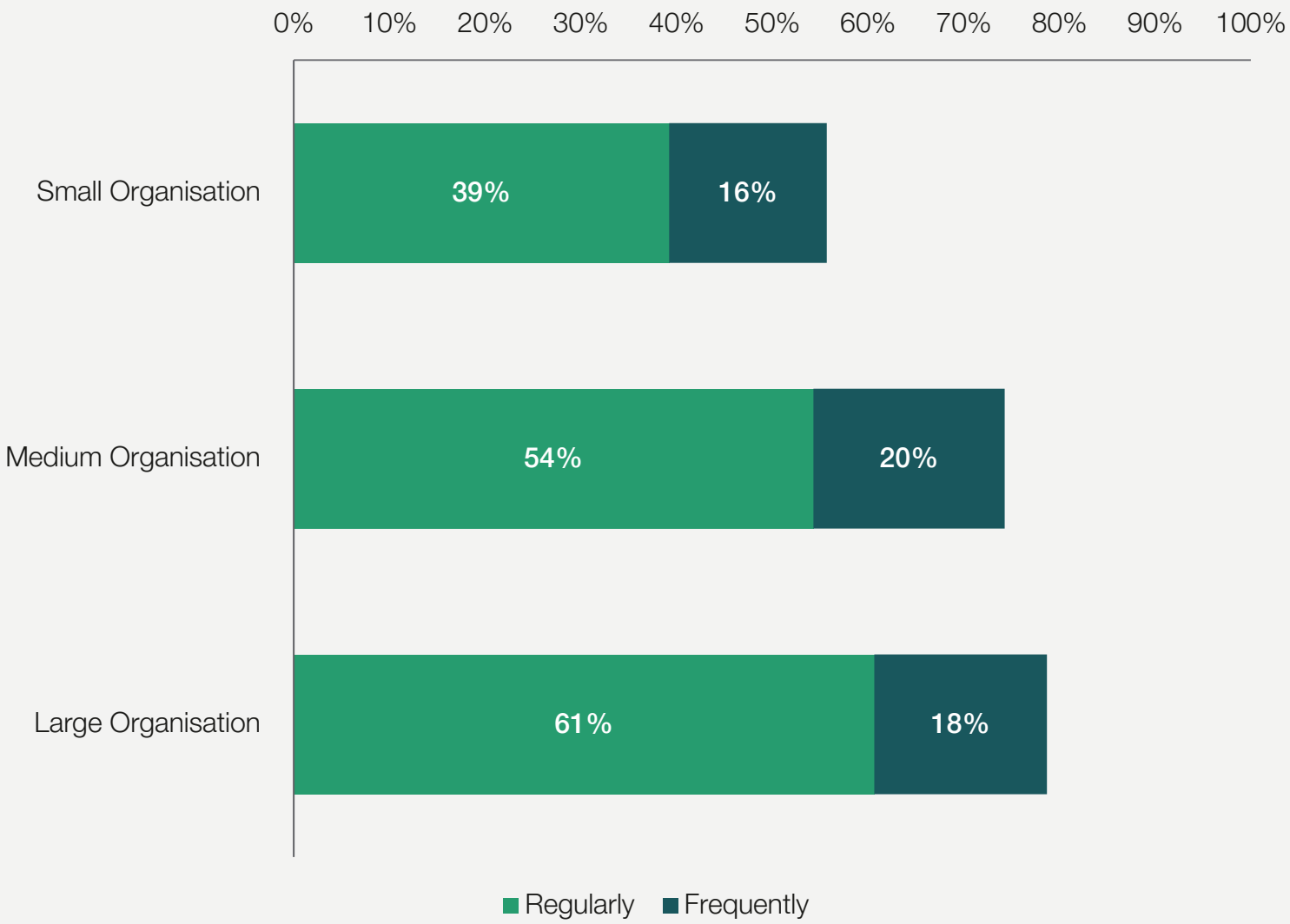



Chart 2: Frequency of the use of BIM by structural engineers by size of organisation.

While Building Information Modelling (BIM) has become an established part of modern engineering practice, adoption is not evenly distributed across the profession. The survey found that organisation size has a much greater influence on BIM usage than career stage or seniority.

Engineers working in larger organisations are significantly more likely to use BIM regularly, with almost four in five respondents in large firms using BIM on a regular or frequent basis, compared with just over half of those working in smaller organisations.

The findings suggest that barriers to BIM adoption are more closely linked to organisational resources, project requirements and digital infrastructure than to the experience level of individual engineers.

As digital information becomes increasingly important throughout the design and construction process, BIM continues to play a key role in supporting collaboration, coordination and the effective management of engineering information.

# FEA analysis is now a standard engineering tool

While digital engineering continues to evolve, some technologies have become established parts of everyday practice. Finite Element Analysis (FEA) is one of those technologies.

The survey found consistently high levels of FEA usage across organisations of all sizes, with most early and mid-career engineers using analysis software either regularly or frequently. Adoption was strongest in larger organisations, although usage remained high throughout the profession.

The widespread use of FEA demonstrates how digital analysis has become embedded within modern structural engineering workflows. What was once considered a specialist capability is now a routine part of design and assessment across the industry.

This shift highlights the important role analysis software plays in helping engineers understand structural behaviour, evaluate options and support informed design decisions

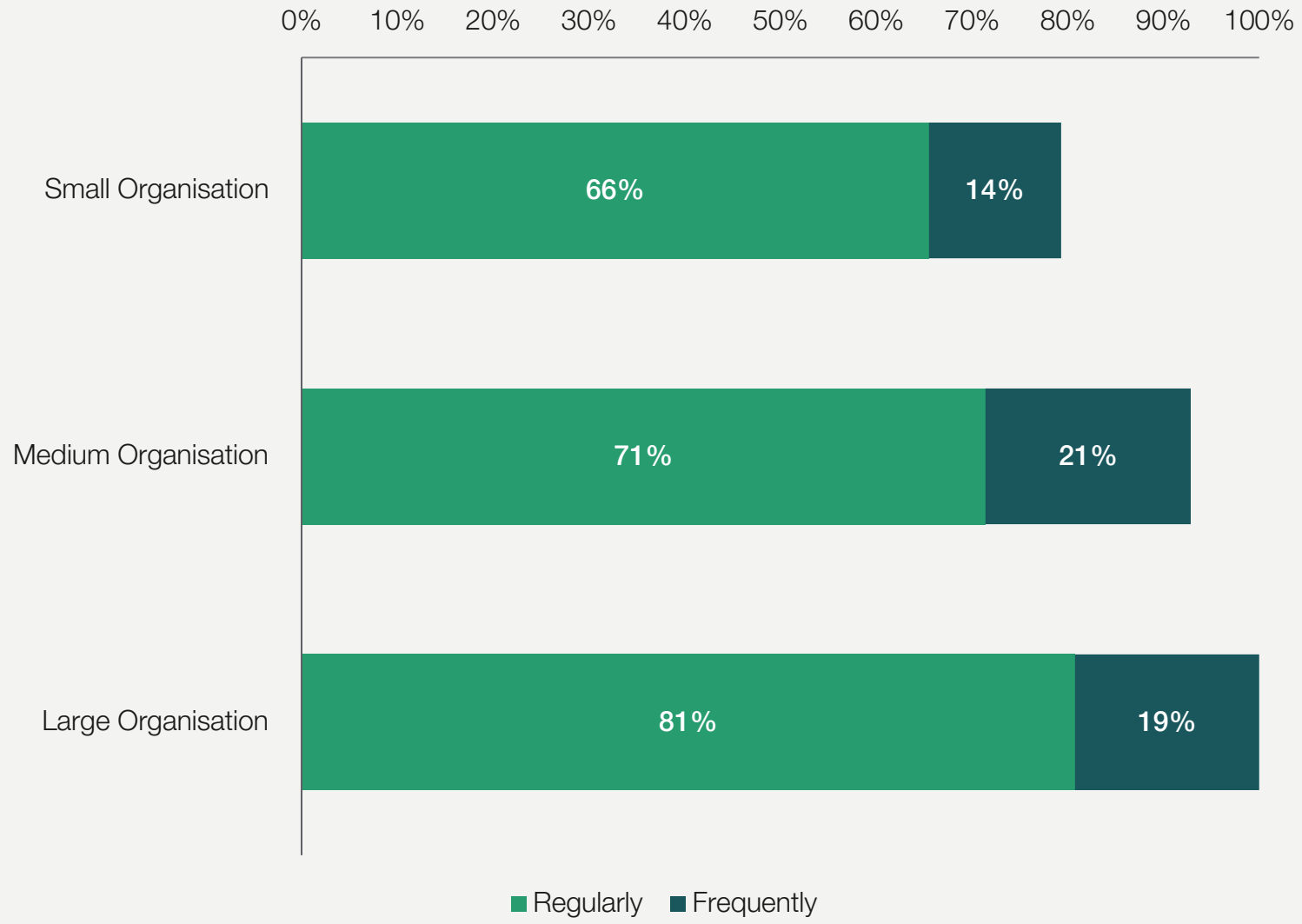



Chart 3: Frequency of FEA usage by early and mid-career structural engineer respondents by company size.

# Scripting has not gone mainstream

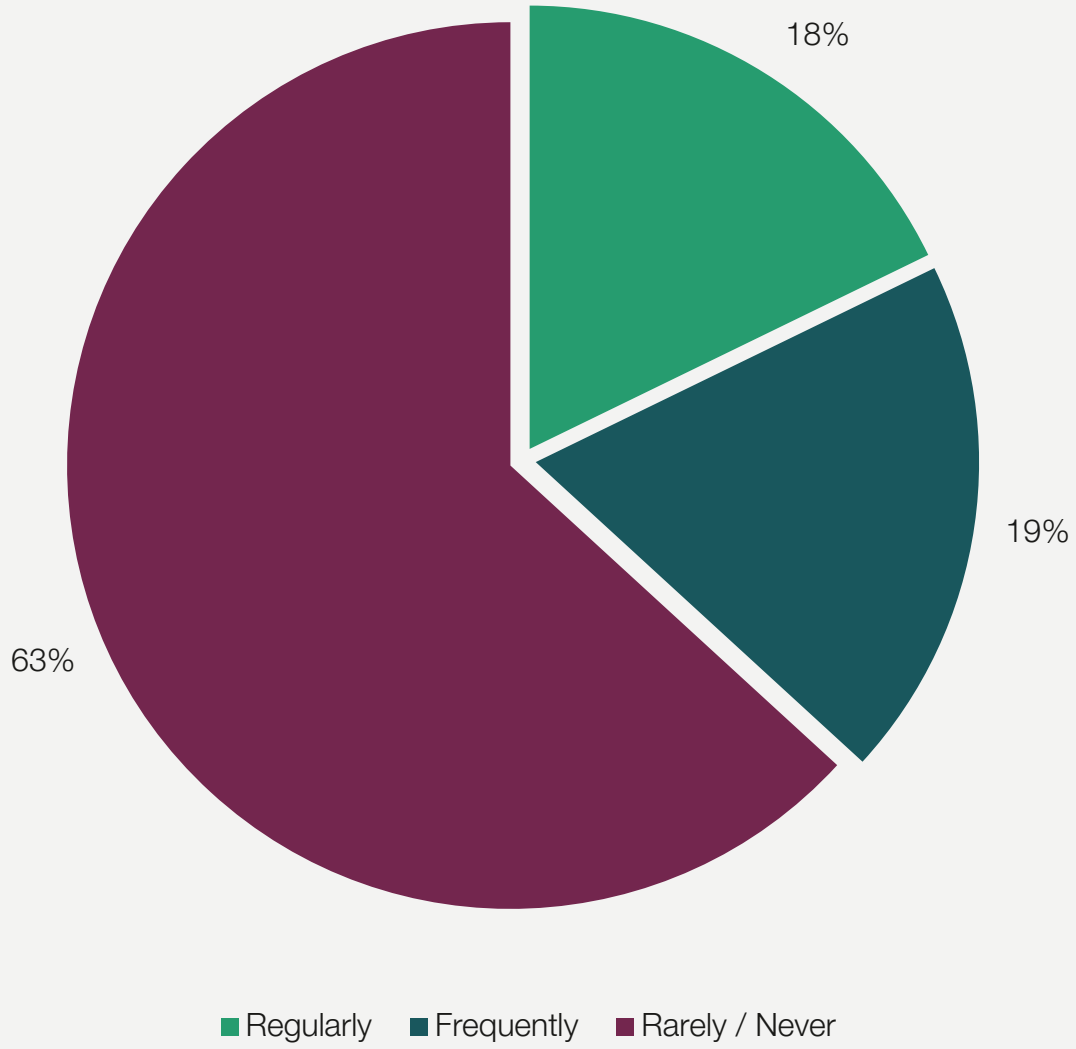



Chart 4: Pie chart showing the frequency of the use of scripting tools.

While many digital tools are now embedded within everyday engineering practice, scripting remains a relatively specialist capability. The survey found that almost two-thirds of respondents rarely or never use scripting tools, with fewer than one in five using them regularly.

The results suggest that, despite growing interest in automation and computational workflows, scripting has yet to achieve the widespread adoption seen with technologies such as BIM, spreadsheets and analysis software.

Where scripting is used, it can help automate repetitive tasks, improve efficiency and support more advanced digital workflows. However, adoption remains concentrated within a minority of practitioners. The findings highlight a significant opportunity for the profession, as automation increasingly becomes an important part of the digital engineering landscape.

# Larger firms are pulling away in automation capability

While scripting remains a relatively niche activity across the profession, adoption is not occurring at the same pace in all organisations. The survey found that engineers in medium and large organisations are almost twice as likely to use scripting tools as those working in smaller firms.

This difference highlights how access to digital skills, training and established workflows can influence the adoption of automation. While larger organisations appear to be integrating scripting into everyday practice, uptake among smaller firms remains significantly lower.

As the profession continues to embrace digital engineering, automation has the potential to reduce repetitive tasks, improve efficiency and support more consistent project delivery. The findings suggest that this capability is developing unevenly across the industry.

This creates a clear digital divide, with larger organisations currently better positioned to realise the benefits of advanced digital workflows.

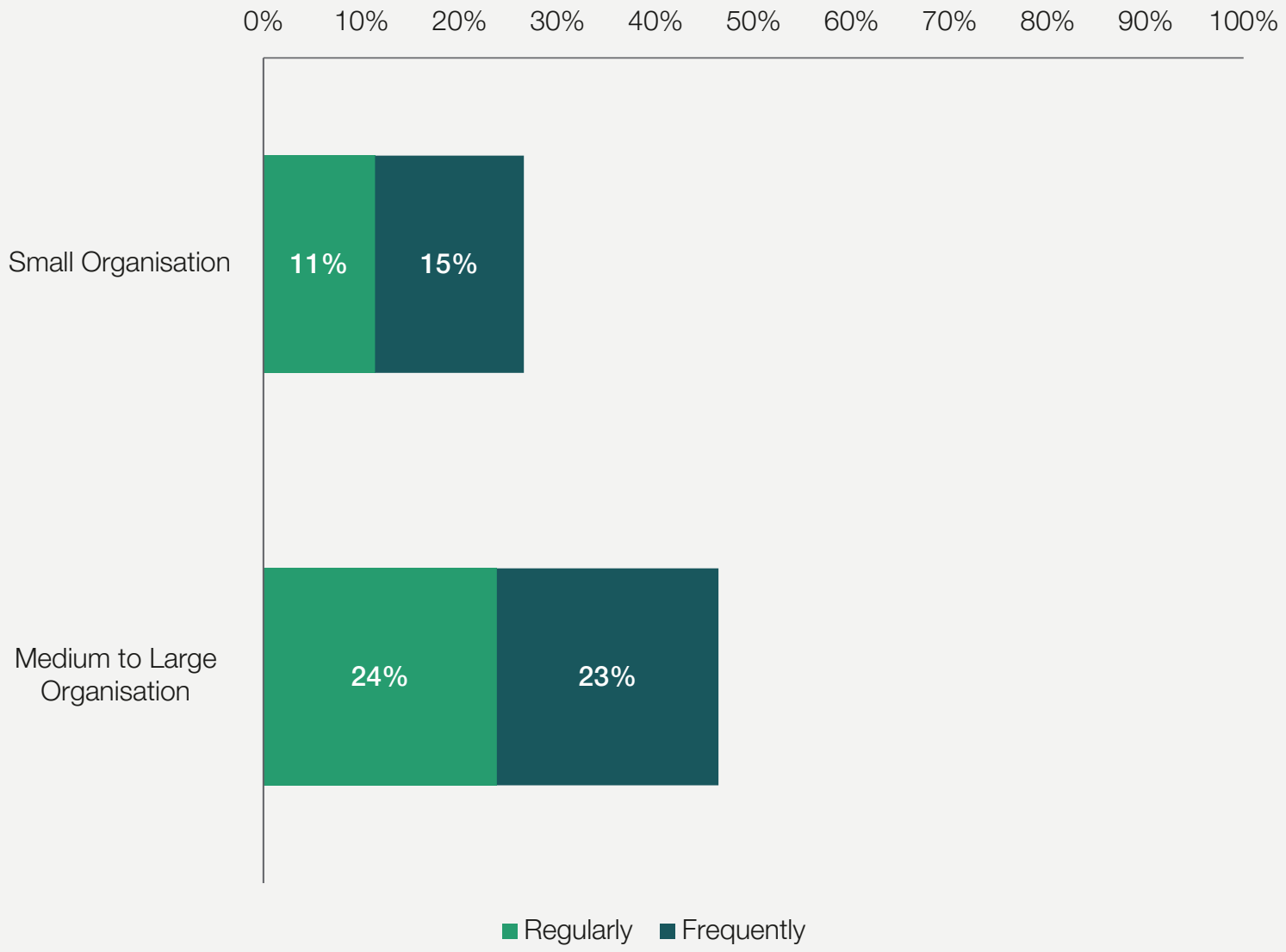



Chart 5: Frequency of the use of scripting by early and mid-career structural engineers by size of organisation.

# Digital maturity drives sustainability outcomes

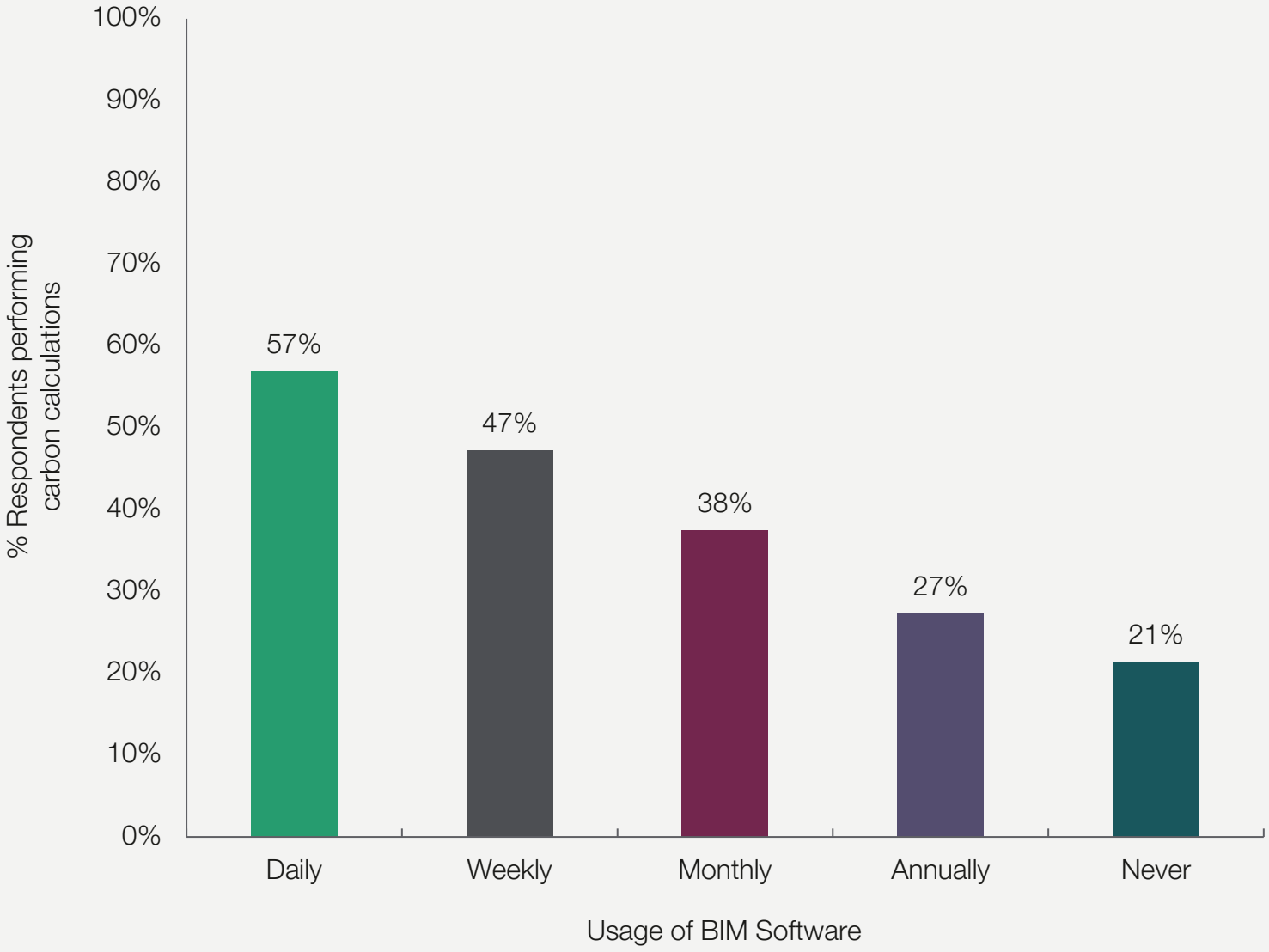



Chart 6: Respondents carbon calculations are linked to how often they use BIM, with a 20% drop in the likelihood of performing calculations between each group.

The survey found a clear relationship between the use of digital tools and the likelihood of measuring embodied carbon. Respondents who use BIM software most frequently were significantly more likely to undertake carbon calculations than those who rarely or never use BIM.

More than half of respondents who use BIM daily reported measuring embodied carbon, compared with just over one-fifth of those who never use BIM. The results indicate a consistent decline in carbon assessment activity as BIM usage decreases.

While BIM is not the only route to measuring embodied carbon, the findings suggest that digitally mature workflows can help make sustainability assessments more accessible and easier to integrate into project delivery.

As sustainability becomes an increasingly important consideration for the profession, digital tools are playing a growing role in supporting evidence-based decision making throughout the design process.

# Digital transformation is happening at different speeds around the world

Digital tools are becoming increasingly important to structural engineering practice, but adoption is not progressing uniformly across the profession. The survey found a significant difference in the regular use of design software between respondents in the United Kingdom and those elsewhere in the world.

More than 70% of UK respondents reported using design software regularly, compared with fewer than 40% of respondents from the rest of the world.

The reasons behind this difference are likely to vary between regions, reflecting factors such as local industry practices, project requirements and access to digital tools. However, the results demonstrate that digital maturity continues to develop at different rates across global markets.

As digital engineering capabilities continue to expand, understanding these regional differences will be important in supporting the wider adoption of technology across the profession.

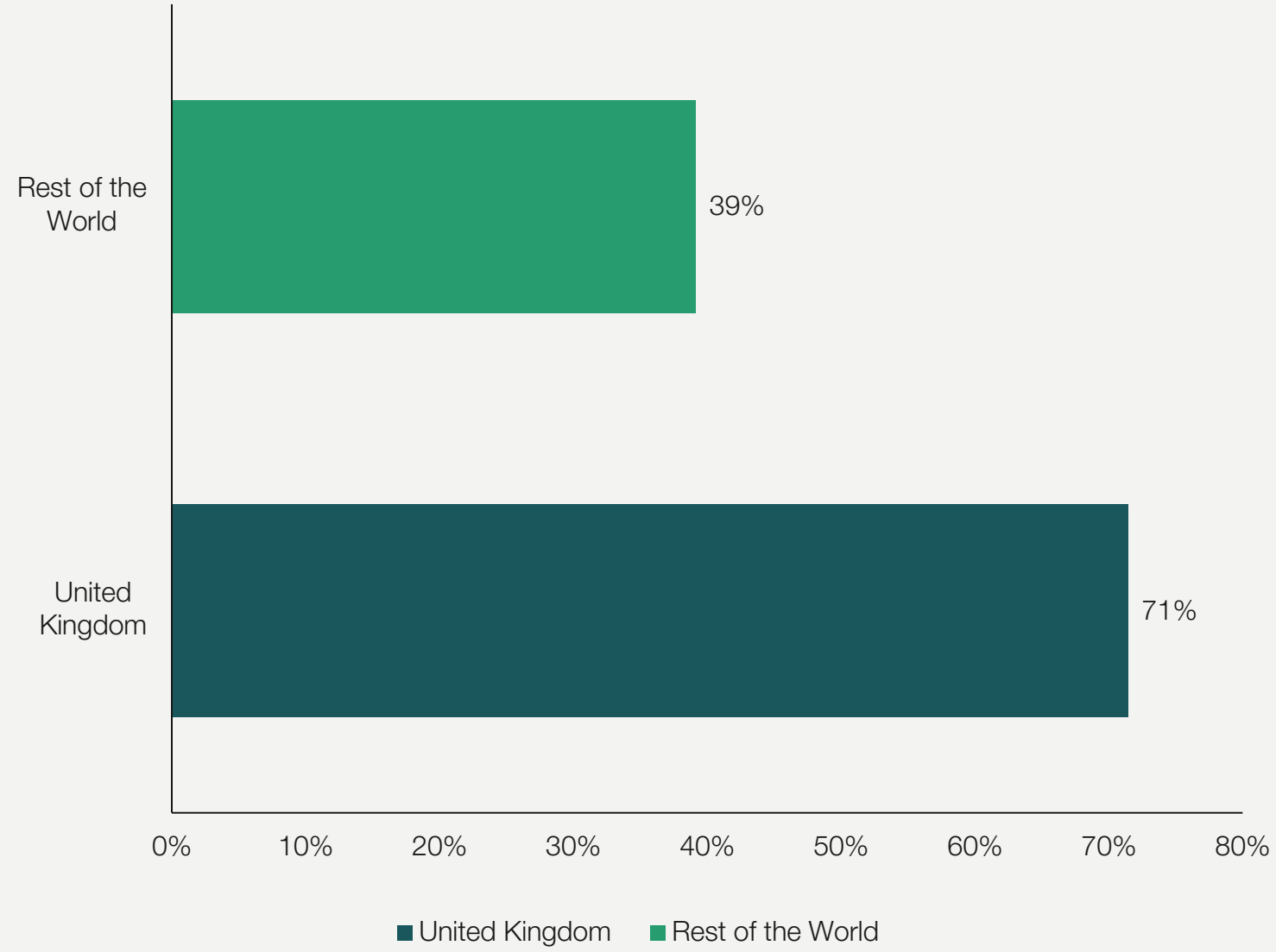



Chart 7: The difference in regular use of design software between the UK and the rest of the world.

# Key Insights

## Challenges for the Profession

While digital tools are now widely used throughout structural engineering, adoption of more advanced capabilities remains uneven. The survey highlights significant differences in the use of BIM, automation and design software across organisations and regions. As digital engineering continues to evolve, the challenge for the profession is no longer whether digital tools should be used, but how organisations can develop the skills, processes and governance needed to maximise their value.

## What the Survey Tells Us

The survey presents a picture of a profession that has successfully embraced digital technology. Spreadsheets, BIM and finite element analysis are now firmly embedded within everyday engineering practice. However, the results also show that more advanced technologies, such as scripting and automation, remain concentrated within a smaller group of practitioners and organisations.

## Digital Engineering Has Become Mainstream

Digital engineering is no longer a specialist discipline. Digital tools support how engineers design, analyse and deliver projects across the world. The survey demonstrates that many technologies once considered innovative have become standard components of modern engineering workflows. The next phase of digital transformation will depend less on technology adoption and more on the effective integration of digital capability across the profession.



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