CIOB Skills Gap Report

New and unique research to identify skills gaps in professional roles for the benefit of the sector

Commissioned by CIOB and conducted by Enventure

Executive Summary

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Methodology overview

CIOB appointed Enventure Research, an independent research agency, to deliver a research programme to identify specific skills gaps in autumn 2024.

A questionnaire was co-designed by CIOB and Enventure Research, covering topics such as skills mapped to the Corporate Plan themes, barriers to addressing the skills gaps, and training and development opportunities.

The survey was sent by email to a database of members, with follow-up reminders to encourage participation. A total of 2,556 useable responses were received.

Five online focus groups and ten in-depth interviews were held with members, stratified to include members from a mix of different locations, member types and sectors.

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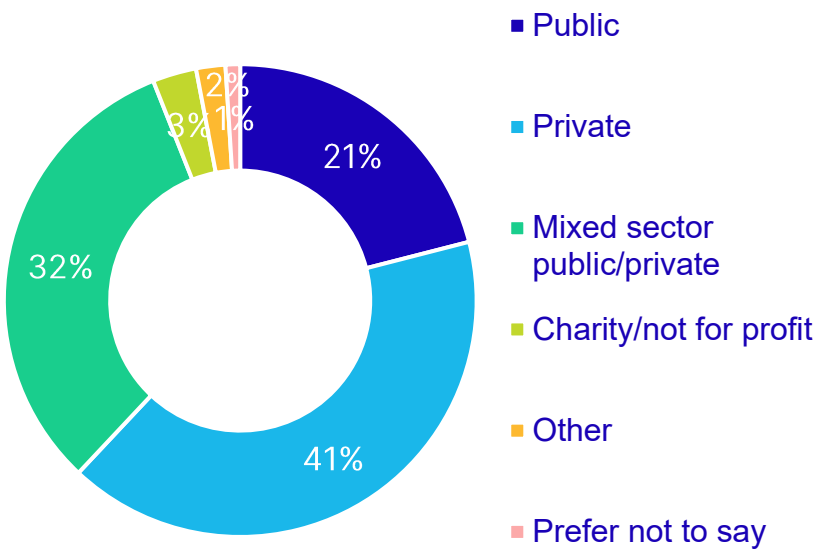
Survey respondent profile

Sector

Both the private and public sectors were represented in the survey response, with private the most common (41%), followed by a mix of public and private sector (32%). A fifth said they worked in the public sector only (21%).



Question: To help us understand your perspective on skills gaps, in which of these areas do you predominantly work in? | Base: All respondents (2,556)

Area of work

Commercial construction was the most common are of work (45%), followed by renovation or refurbishment (29%) and consultancy services (26%).

Question: Tell us a little more about the main area(s) you work in | Base: All respondents (2,556)

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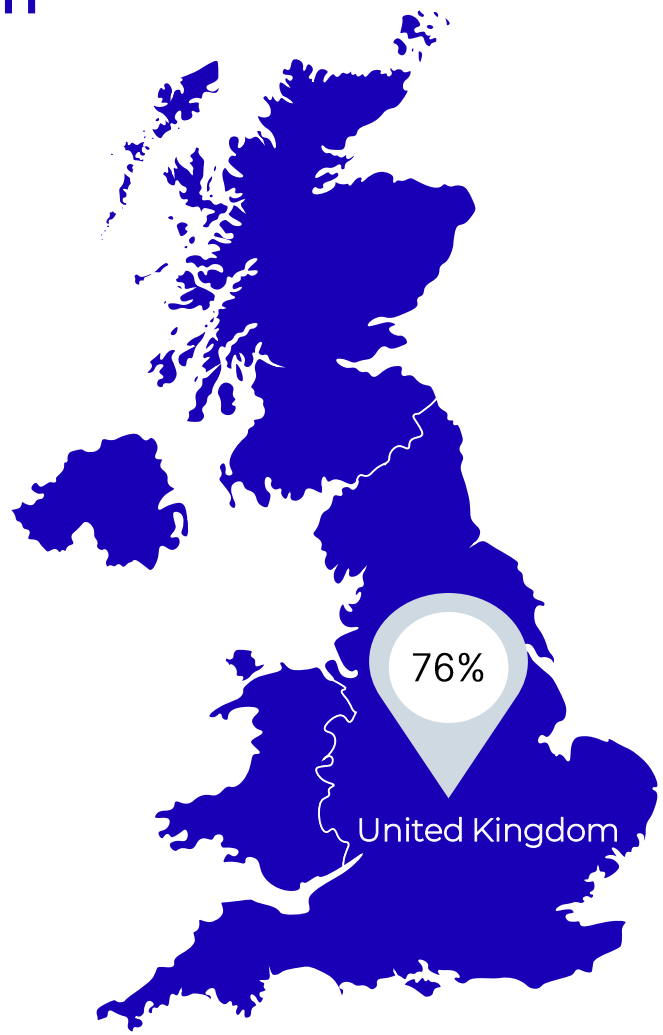
Survey respondent profile

Location



Global regions

Where in the world?

- Hong Kong (7%)
- Middle East (6%)
- Ireland (5%)
- Africa (2%)
- Australasia/OCE (2%)

Question: Firstly, where are you currently working?
Base: All respondents (2,556)

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Key findings

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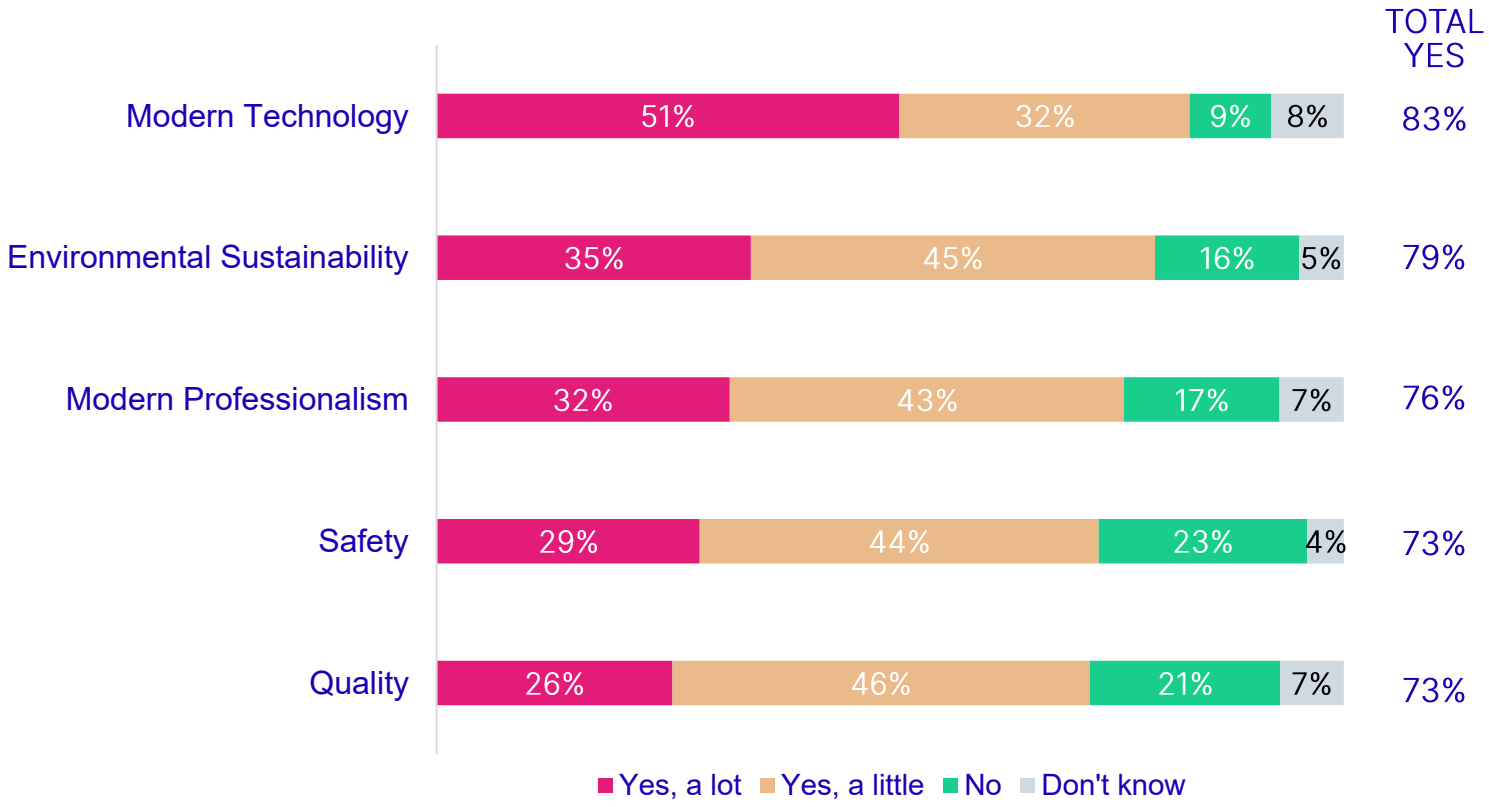
Combined scores for each theme in the survey

Modern Technology recorded the highest combined skills gap (83%), followed by Environmental Sustainability (79%) and Modern Professionalism (76%). Safety and Quality saw slightly lower combined skills gaps (both 73%).



Question: Do you think there are skills gaps for the following? COMBINED AREAS
Base: All respondents (2,556)

Key findings from the survey

Modern Professionalism	• **Combined** skills gap of **76%** across the seven areas related to Modern Professionalism (lot/little gaps) • **47%** thought there were a lot of skills gaps related to **applying modern methods of construction (MMC)** • **44%** thought there were a lot of skills gaps in **understanding building regulations**
Environmental Sustainability	• Combined skills gap of 79% across the six areas related to Environmental Sustainability (lot/little gaps) • 41% thought there were a lot of skills gaps related to understanding the impact of climate change on the built environment • 38% thought there were a lot of skills gaps in retrofitting of traditional buildings, using green/environmental technologies, and understanding building pathology and optimising performance of a building
Modern Technology	• Combined skills gap of 83% across the two areas related to Modern Technology (lot/little gaps) • 54% thought there were a lot of skills gaps related to using artificial intelligence (AI) • 48% thought there were a lot of skills gaps in using digital technologies
Quality	• Combined skills gap of 73% across the five areas related to Quality (lot/little gaps) • 29% thought there were a lot of skills gaps related to applying building regulations and standards • 29% thought there were a lot of skills gaps in understanding building contracts and codes
Safety	• Combined skills gap of 73% across the three areas related to Safety (lot/little gaps) • 76% thought there were skills gaps in applying fire safety regulations • 76% thought there were skills gaps related to applying building regulations and standards

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Modern Professionalism

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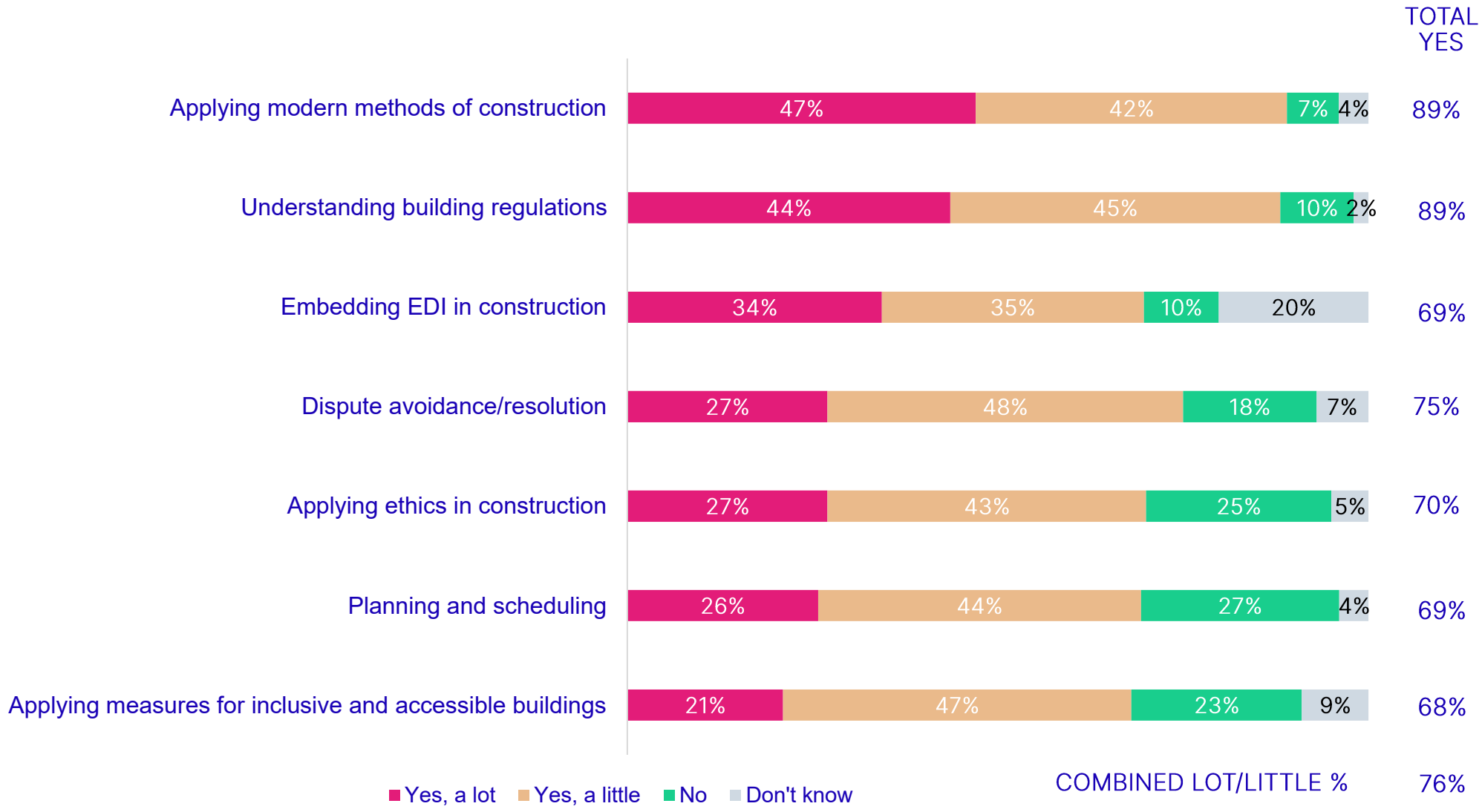
Gaps for Modern Professionalism Skills



Question: CIOB Modern Professionalism theme: Do you think there are skills gaps for the following? | Base: All respondents (2,556)

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Qualitative feedback

Modern methods of construction (MMC)

- Limited understanding of modular design, logistics, standardisation, and core MMC principles
- Skills gap in managing logistics and integrating modern and traditional methods
- Lack of awareness of MMC benefits among clients, senior professionals, and mortgage lenders

Building regulations

- Confusion due to frequent changes, differences between devolved nations, and multiple regulatory documents
- Gaps in understanding Photovoltaic (PV) systems, EV charging infrastructure, and sustainable construction regulations
- Disconnect between building regulations and infrastructure planning, particularly for district heat networks

Planning and scheduling

- Gaps in baseline programmes, critical paths, key planning concepts, and resource management
- Lack of formal training in project scheduling for site managers & early-career professionals
- Unrealistic expectations from clients and contractors, leading to delays and cost overruns

Accessibility and ethics

- Confusion around Part M of the building regulations, particularly among tradespeople
- Poor documentation practices, including missing as-built drawings in high-rise buildings, impacting quality assurance & safety
- Concerns about over-reliance on contractor self-reporting rather than independent verification

Equality, diversity and inclusion (EDI)

- Underrepresentation of women and marginalised groups in senior leadership
- Limited mentoring and career support for women and marginalised groups , leading to retention issues at mid-management levels
- Gaps in understanding the practical application of EDI principles on projects

> "In a training workshop, perhaps do an exercise where you have to think like you're in a wheelchair and you are designing this building so that you can access it. You have to train them to think in the mind of someone who has a disability."

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Environmental Sustainability

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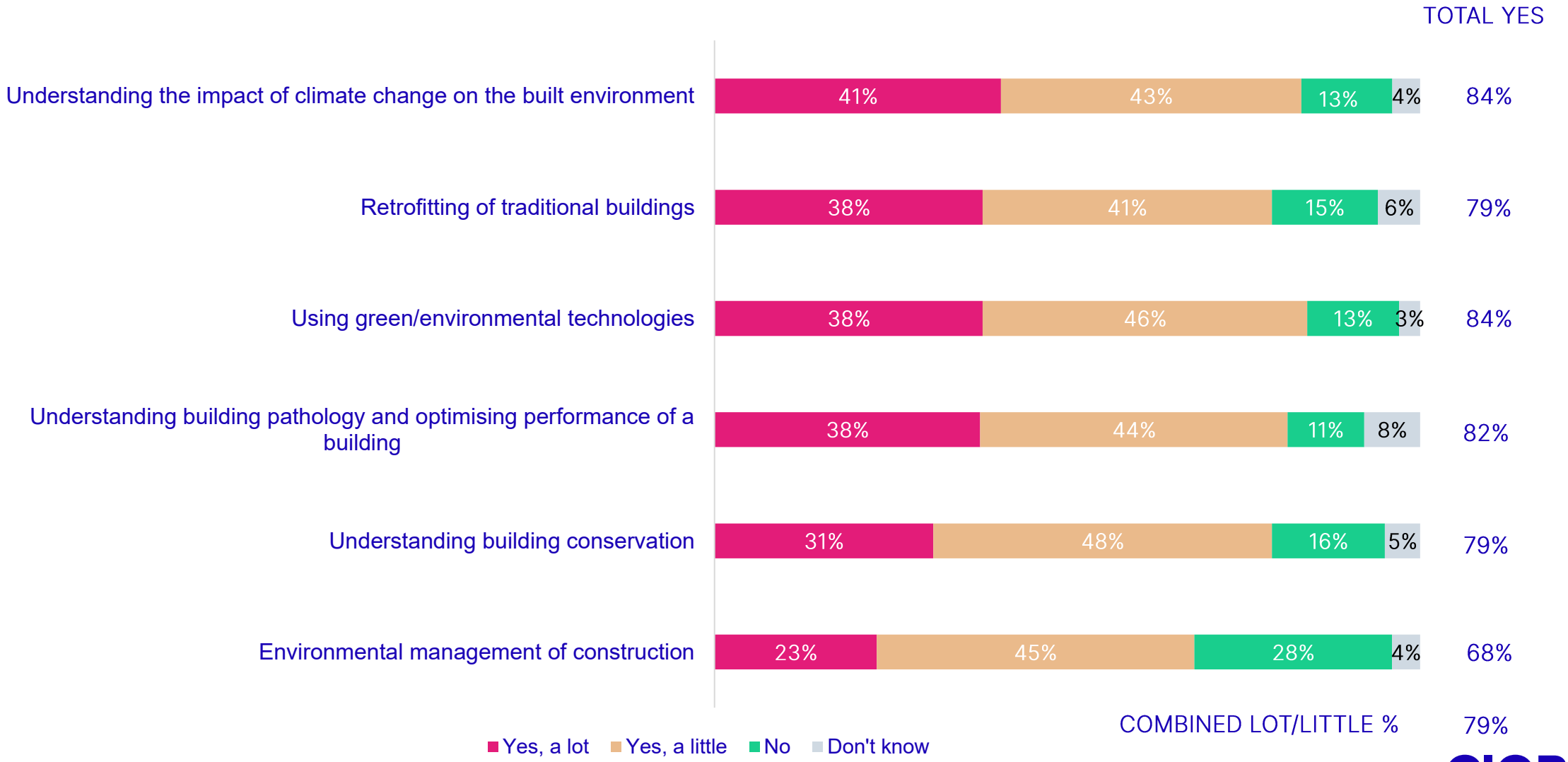
Gaps for Environmental Sustainability Skills



Question: CIOB Environmental Sustainability theme: Do you think there are skills gaps for the following? | Base: All respondents (2,556)

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Qualitative feedback

Retrofit

- Shortage of certified professionals (e.g., PAS 2035, TrustMark) leading to higher costs and limited availability of skilled retrofit installers
- Limited knowledge of retrofit products and improving energy efficiency, and insufficient understanding of integrating sustainability and modern functionality

Green technology

- Skills gaps in renewable energy solutions and technology, and knowledge on integration into buildings
- Challenging to keep up to date with innovations and emerging solutions, as green technology is evolving rapidly

Environmental management

- Driven by regulation rather than proactive adoption, leading to minimal focus on long-term environmental impact
- Need for clearer guidance on biodiversity, flood risk management, and sustainability best practices, particularly for developers, taking regional differences into account

Climate change

- Lack of skills in climate-proofing buildings (e.g., flood resilience, overheating mitigation, drainage upgrades for older buildings)
- Need for global, standardised training and clearer industry direction on climate change resilience

Building conservation

- Shortage of skilled conservation professionals and regional variations in required skills, depending on historical building types
- Need for localised training, CPD, and better collaboration with planning authorities to streamline conservation efforts

Building pathology

- Shortage of competent building pathologists and need for specialised training in diagnosing structural issues, dampness, and defects in retrofit projects
- Need for increased awareness and structured qualifications in building pathology, defect diagnosis, and remediation strategies

> “Get clear direction. What are we supposed to be doing? And if you don't know, let's get bigger stakeholders, everybody involved.”

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Modern Technology

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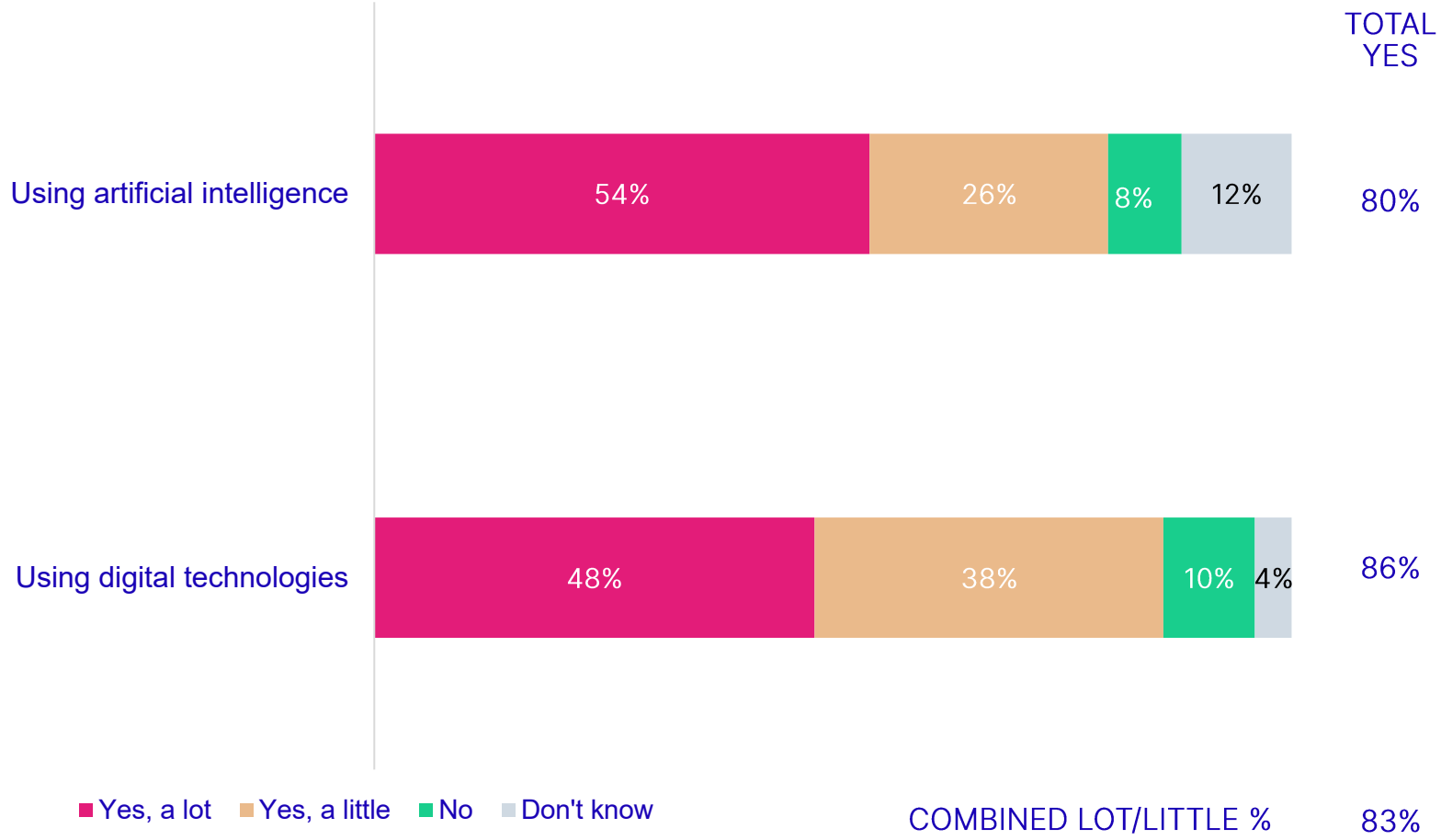
Gaps for Modern Technology Skills



Question: CIOB Modern Technology theme: Do you think there are skills gaps for the following? | Base: All respondents (2,556)

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Qualitative feedback

Digital technology

- While digital tools (e.g., BIM, Revit, cloud-based project management platforms, sensor technology) are valuable, there is slow adoption in some areas due to cost, lack of training, and resistance from older professionals, and a low awareness of the benefits
- Younger professionals often embrace digital technology solutions more easily, but many site teams, contractors, and SMEs still rely on outdated methods like 2D drawings
- Need for structured digital technology training across various skill levels (beginner, intermediate, expert), particularly for BIM and other relevant software

Robotics

- Despite robotics being used increasingly in off-site manufacturing and surveying, many clients and contractors are unaware of the benefits and opportunities
- Using robotics requires IT, programming, and maintenance skills, which are not traditionally part of construction training and education

Drones

- Drones are widely used for surveys, inspections, and marketing, but many smaller contractors and clients are unaware of their benefits, and so are hesitant to invest in hardware and upskilling in this area
- Operating drones requires certification and knowledge of regulations, and there is a need for better industry awareness of the regulations around drones and using drone-generated data within design and project management tools

Using artificial intelligence (AI)

- AI can improve bid writing, compliance, safety documentation, and project management, but awareness of its practical applications is low
- Concerns exist around accuracy, over-reliance, and potential deskilling, requiring structured training and clear industry guidance
- Digital literacy and data science skills will be required, and there are upskilling opportunities on working with AI tools, interpreting AI-driven insights, and ensuring accuracy through human oversight

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Quality Theme

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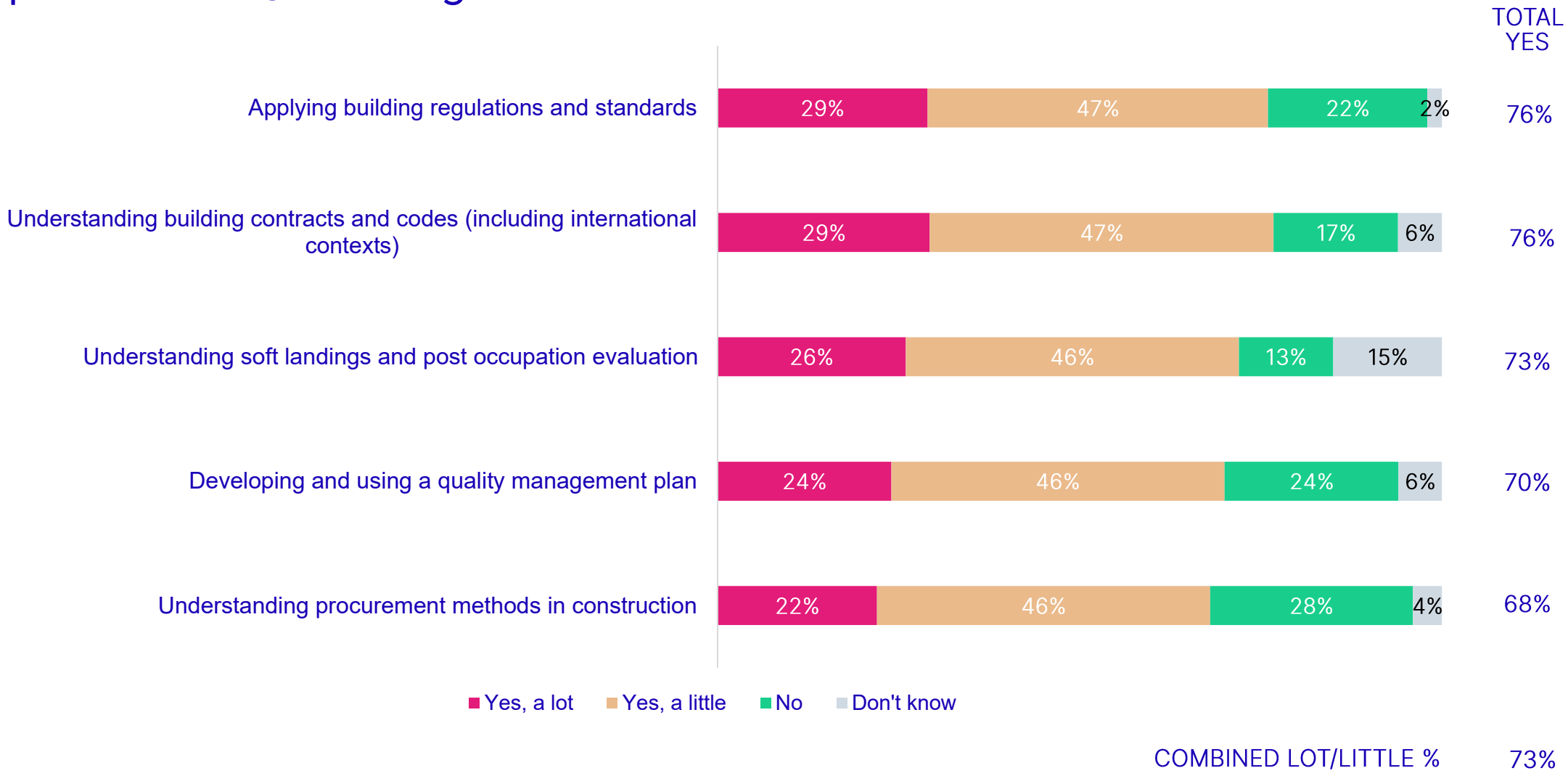
Gaps for Quality Skills



Question: CIOB Quality and (Building) Safety theme: Do you think there are skills gaps for the following? | Base: All respondents (2,556)

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Qualitative feedback

Procurement

- Smaller contractors struggle with public sector procurement due to complexity and lack of awareness, leading to missed opportunities
- Often a disconnect between bid teams, construction teams, and clients, resulting in misaligned project goals and buildability issues
- Alternative procurement models (e.g. construction management, collaborative frameworks) are underutilised due to low awareness

Contracts

- Strong preference for JCT contracts in the public sector, while NEC contracts are underused due to lack of confidence and training
- Lack of understanding of key contract mechanisms (timeframes, compensation events, payment terms) and contract administration

Understanding and applying regulations and standards

- Building regulations, codes, and standards are fragmented and complex, making compliance challenging
- Confusion due to frequent changes, regional variations, and multiple regulatory documents
- Limited training opportunities for private sector professionals on building control responsibilities, with most training aimed at public sector officers

Soft landings and post occupation evaluation

- Post-occupancy monitoring of new technologies (e.g., heat pumps, solar panels) is often overlooked, impacting efficiency
- Training gaps exist in post-occupancy evaluation, leading to missed opportunities to improve building performance

Quality plans

- No standardised approach to quality planning, leading to inconsistencies across projects
- More awareness is needed on quality planning from the design stage, ensuring contractor input early on to avoid impractical designs and on tendering methods and how they impact quality outcomes

> “There is a lack of understanding out there for the planning stage, for quality. So, when the designer is essentially producing the design and then tendering out to the contractor, right now, there's a lot of information out there about good communication, good design management etc. etc. that can keep the project on track.”

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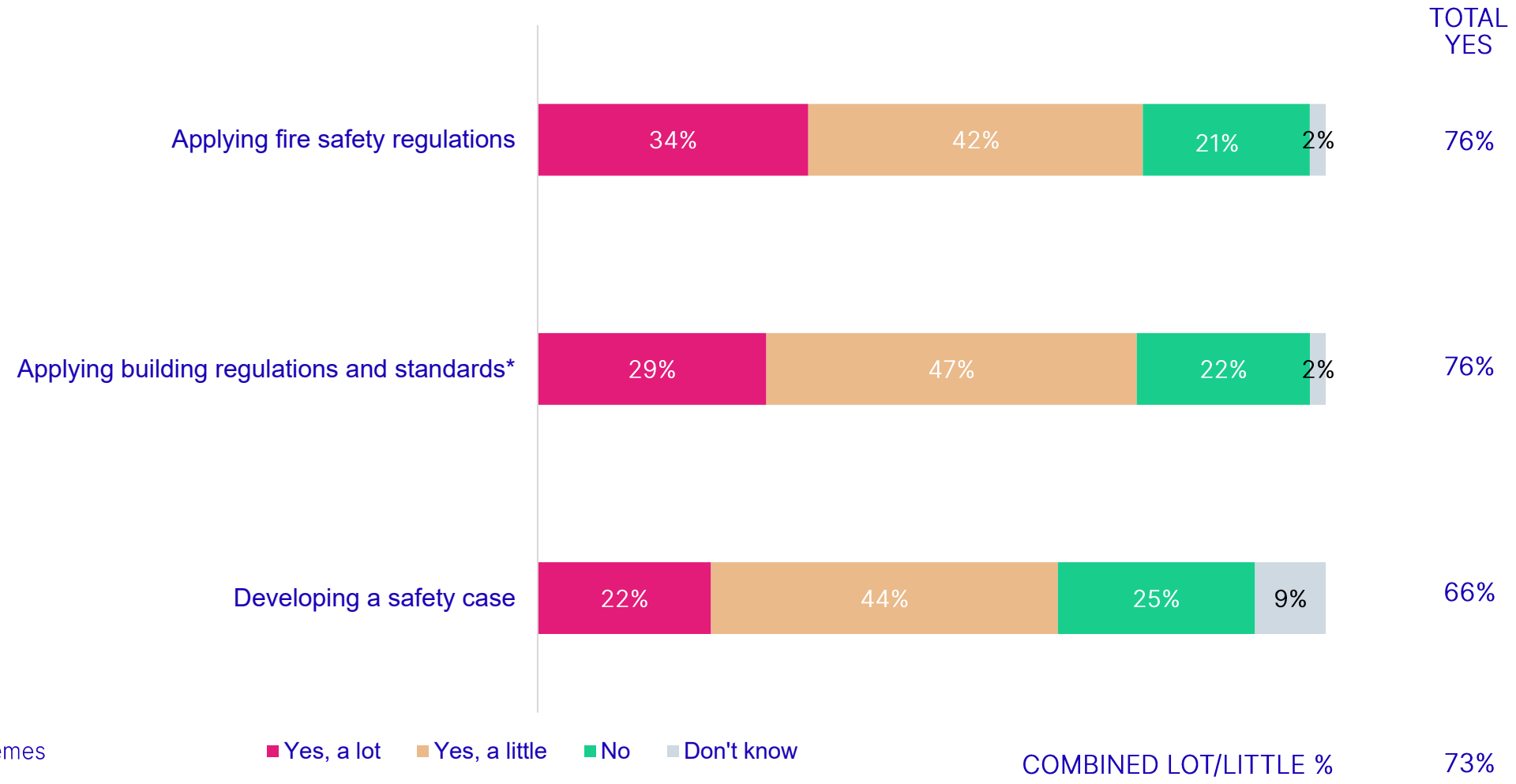
Safety

Gaps for Safety Skills



*Features in both the Quality and Safety themes

Question: CIOB Quality and (Building) Safety theme: Do you think there are skills gaps for the following? | Base: All respondents (2,556)

Qualitative feedback

Fire safety regulations

- Some smaller contractors lack awareness of fire stopping, cavity barriers, and fire socks, leading to poor installation practices
- Fire safety procedures (e.g. hot works permits, permit-to-work systems, fire watch protocols) are inconsistently followed, with many site workers unaware of their importance
- Some contractors lack understanding of fire alarm systems and fire strategy design, which affects compliance and safety

Understanding and applying regulations and standards

- CDM regulations are poorly understood on many sites, with labourers and smaller contractors often unaware of legal responsibilities (e.g. scaffolding tags, site tidiness, F10 notices)
- Health and safety is often treated as a "tick box" exercise, rather than integrated into site culture, with larger contractors delegating safety to specific officers instead of embedding it in daily operations
- Frequent updates to safety regulations (e.g., Part L & Part F) create confusion, particularly among smaller contractors who lack formal training
- Some safety regulations (e.g. fire safety, disability access) sometimes conflict, making compliance more complex
- Building standard inspectors are often overburdened, particularly in rural areas

Safety cases

- Limited awareness of safety cases, particularly among smaller contractors
- Need for more training related to safety cases for site managers

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