

CFE Media & Technology

HVAC Systems & BAS

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Introduction & Methodology

Objective

This study was completed by *Consulting Specifying Engineer* to evaluate the use of heating, ventilation, and air conditioning (HVAC) and building automation systems (BAS) and products by consulting engineers. By gathering data about the dollar amounts of HVAC systems and BAS specified, the types of HVAC systems and BAS selected, and the challenges that HVAC system and BAS designers face, *Consulting Specifying Engineer* provides a snapshot of the engineering community's outlook on HVAC systems and BAS.

Sample

The sample was selected from recipients of *Consulting Specifying Engineer* for whom email addresses were available. Only respondents involved in the selection of HVAC systems, equipment, and controls were asked topic related questions.

Method

Subscribers were sent an email asking them to participate in this study. The email included a URL linked to the questionnaire.

- **Data collected:** October 14, 2019, through November 4, 2019
- **Number of respondents:** 271
 - *Margin of error: +/- 6.0% at a 95% confidence level*
- **Incentive:** Survey participants were offered the opportunity to enter a drawing for a \$100 Amazon.com gift card.

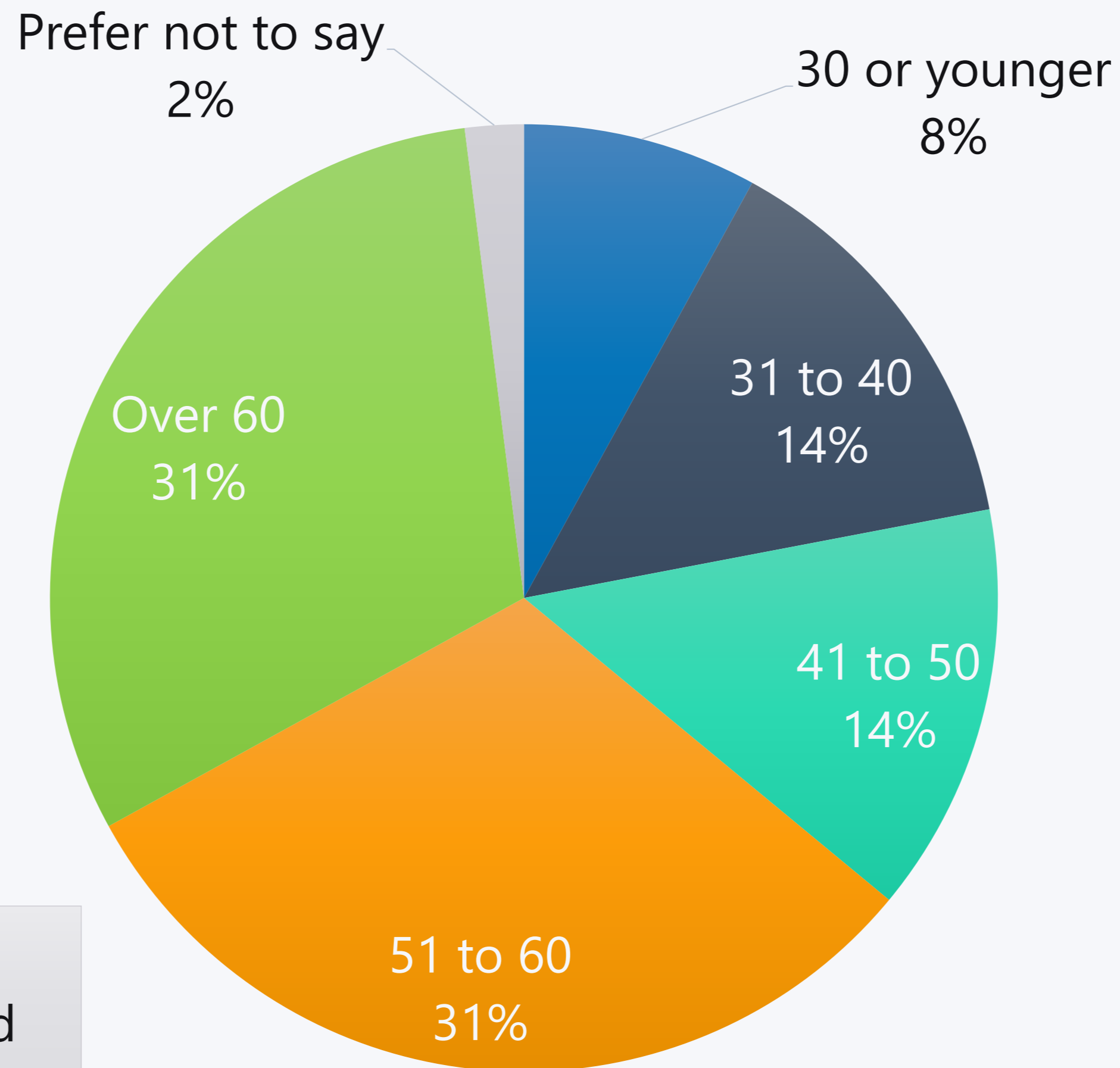
Summary of Findings

- **HVAC, BAS revenue:** The average engineering firm specifies about \$2.5 million annually for HVAC and building automation/control products in new and existing buildings.
- **Systems specified:** Seven in 10 engineers currently specify HVAC controls, fans and air movement and pumps and pumping systems. Engineers expect to specify more chillers and cooling towers, BAS, dedicated outdoor air systems, energy recovery systems and HVAC controls over the next year.
- **Selection involvement:** Seventy percent of engineers determine the requirements/write the specifications for HVAC systems, equipment and controls when included on projects; 64% supervise or consult and 62% recommend the brand. The average engineer spends 38% of their time at work researching and/or specifying HVAC equipment or controls systems.
- **Design factors:** Ninety-seven percent of engineers agree that product quality is the most important factor to their specification of one HVAC product over another, followed by service support (92%), energy efficiency (92%) and the manufacturer's reputation (92%).
- **Building types:** The top building types for which respondents specify, design or make product selections are office buildings, hospitals/health care facilities, industrial/manufacturing facilities/warehouses. and college/university buildings.

Respondent Profile

Age

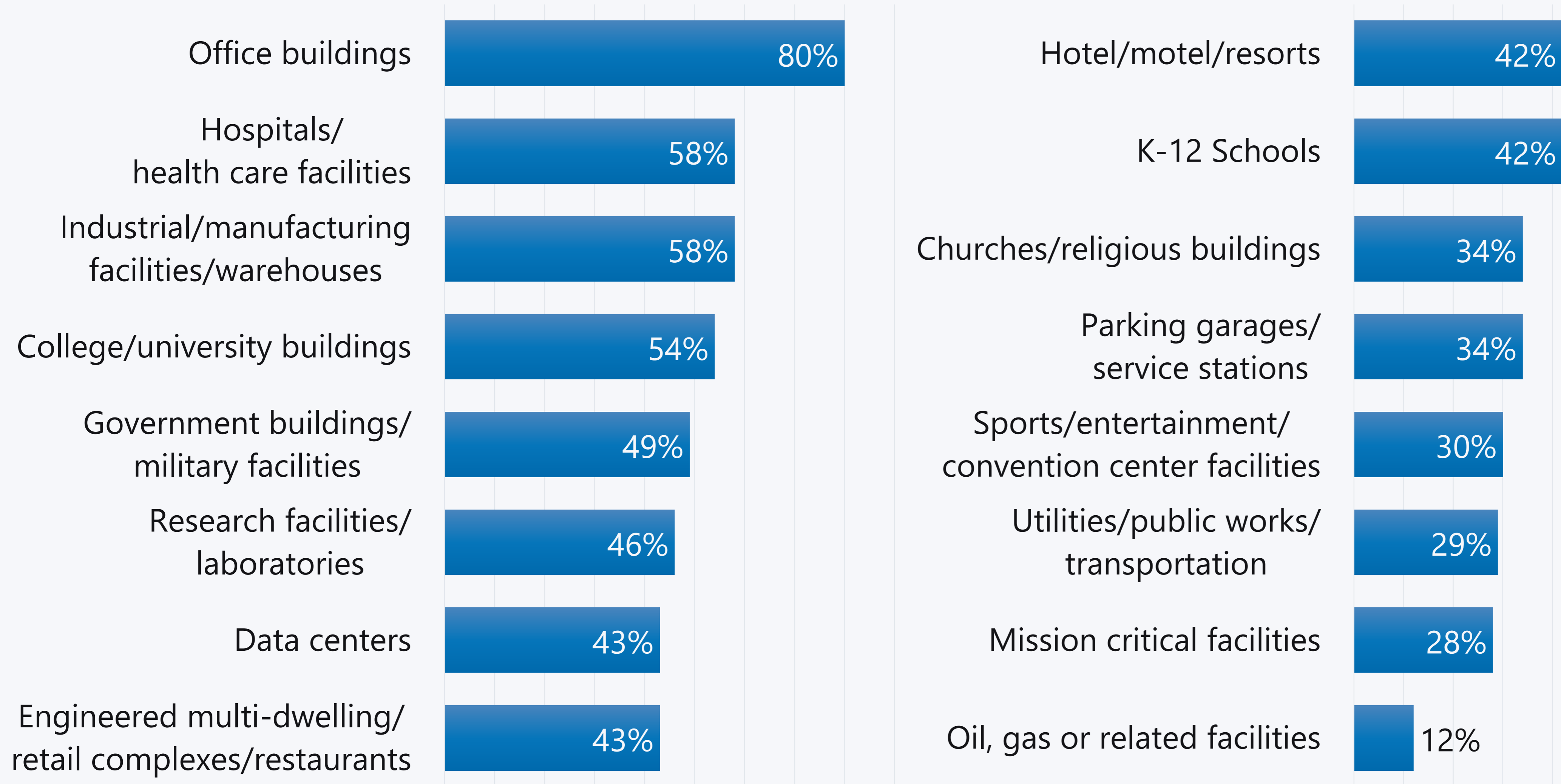
Years



Average
52 years old

Respondent Profile

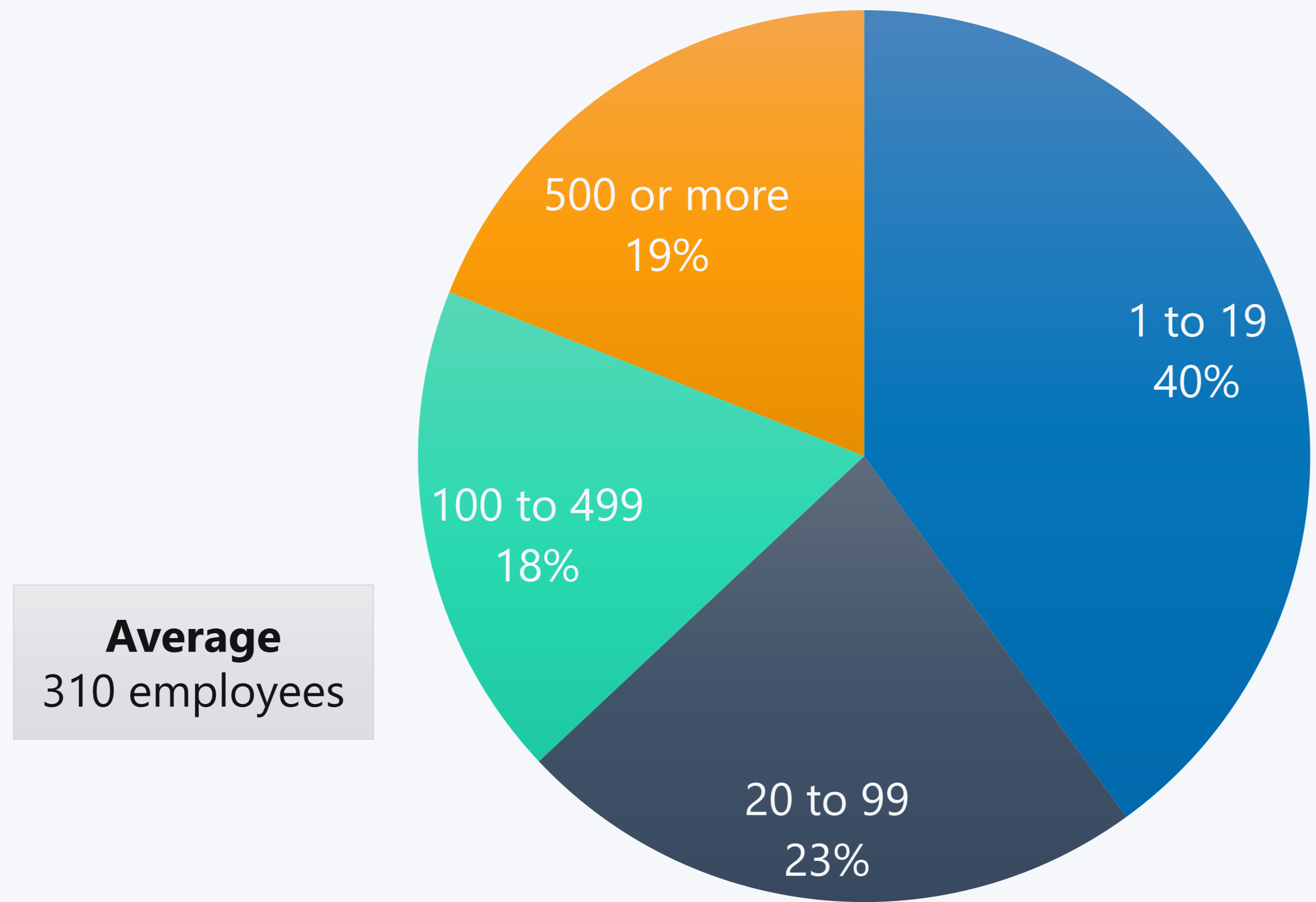
Building Structures



Respondent Profile

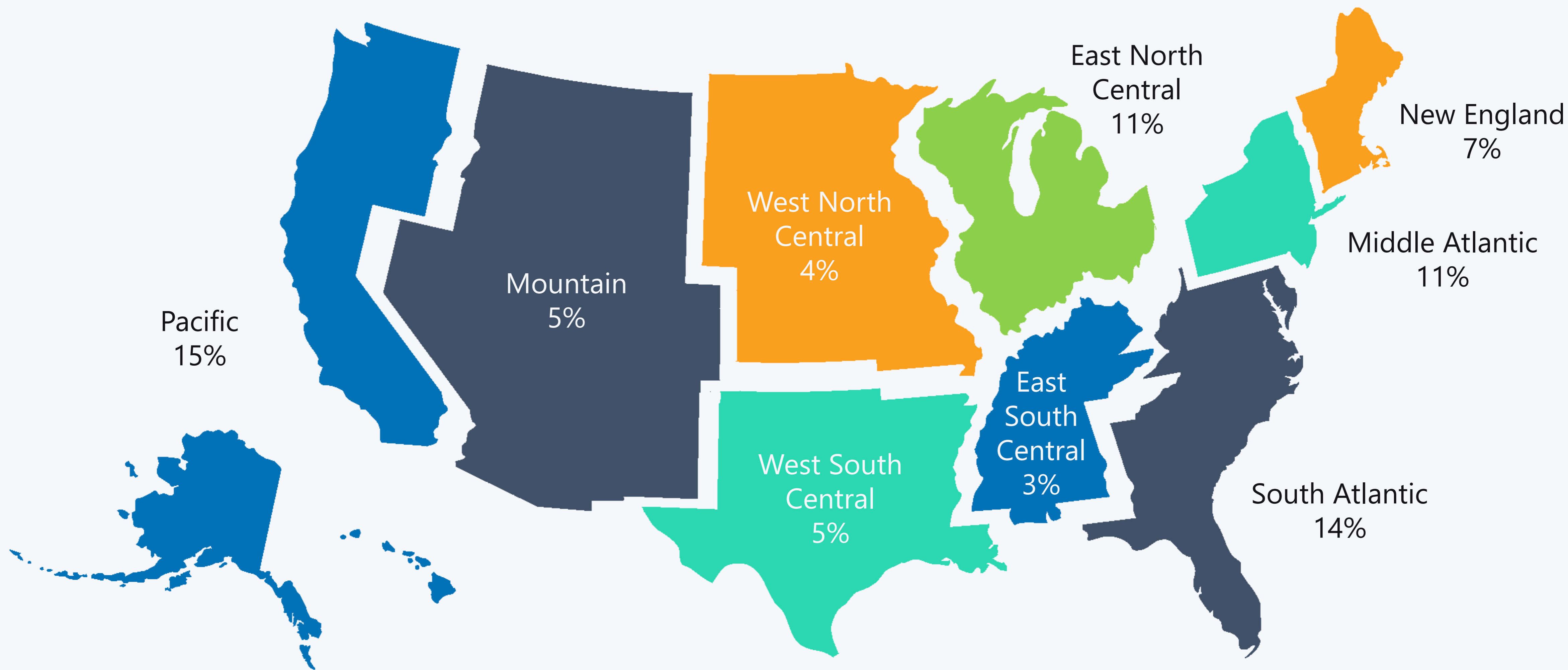
Company Size

No. of Employees



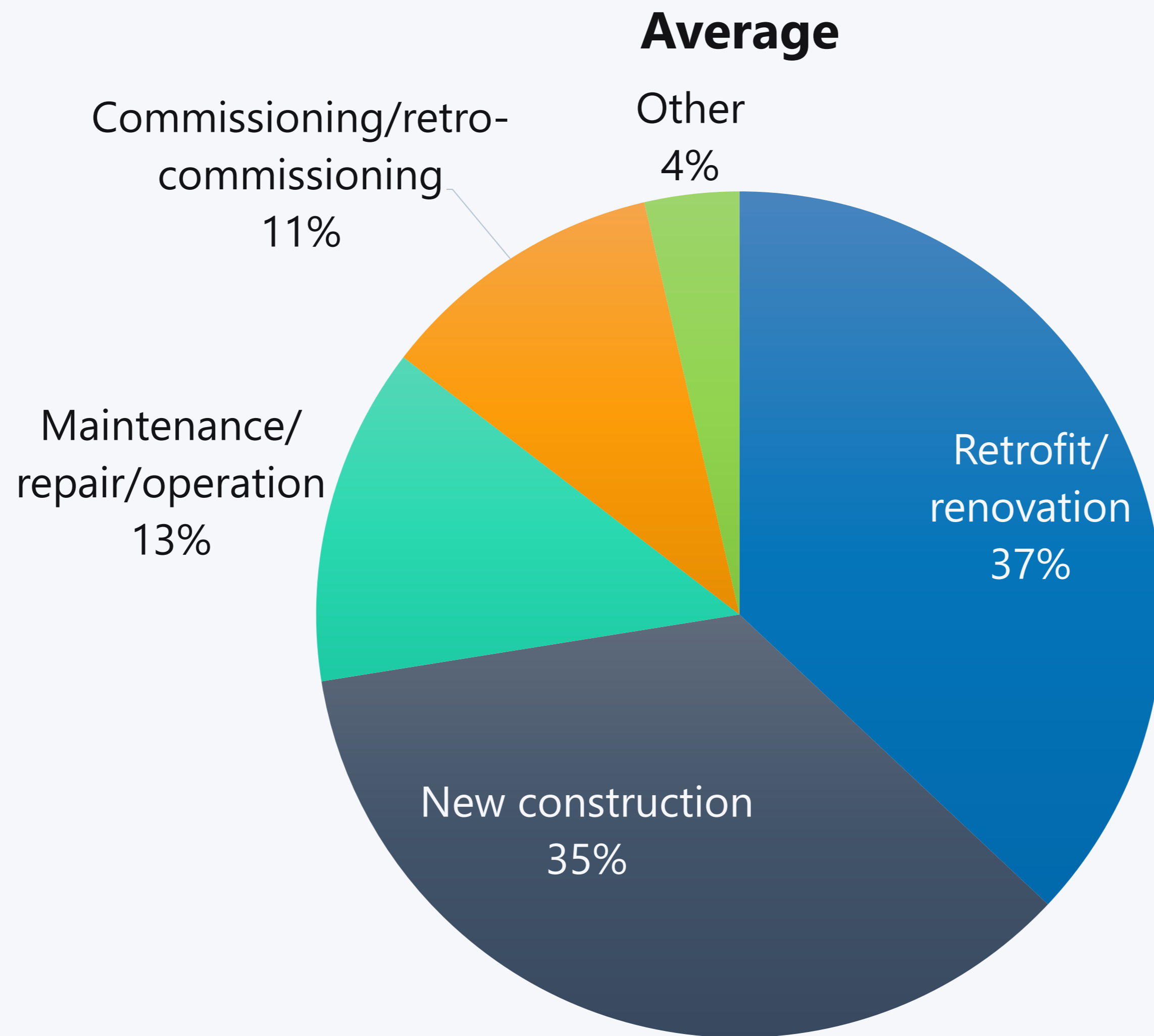
Respondent Profile

Location



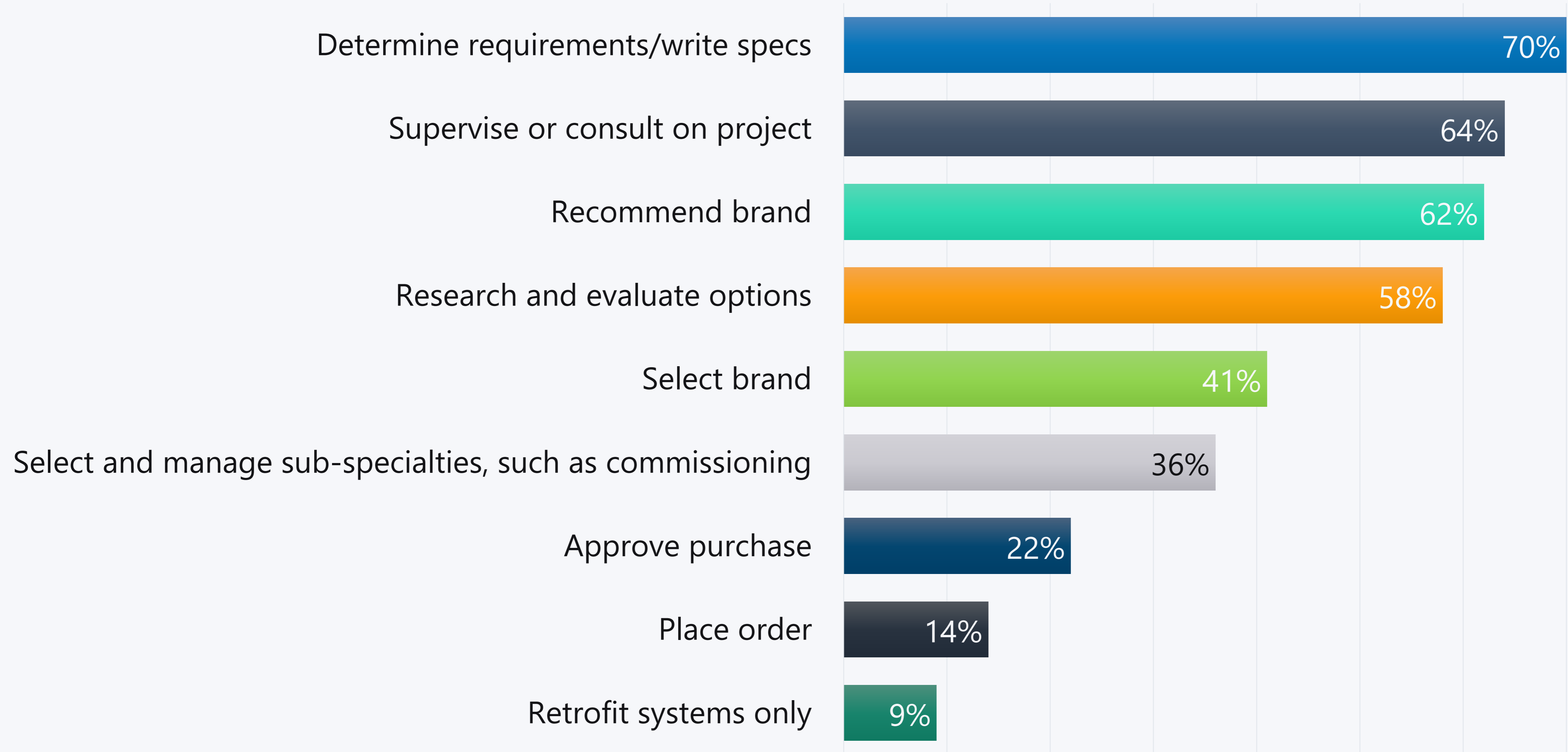
24% of respondents are based outside of the U.S.; 1% are based in the U.S. but region is unknown. 8

Annual MEP/FP Design Billings

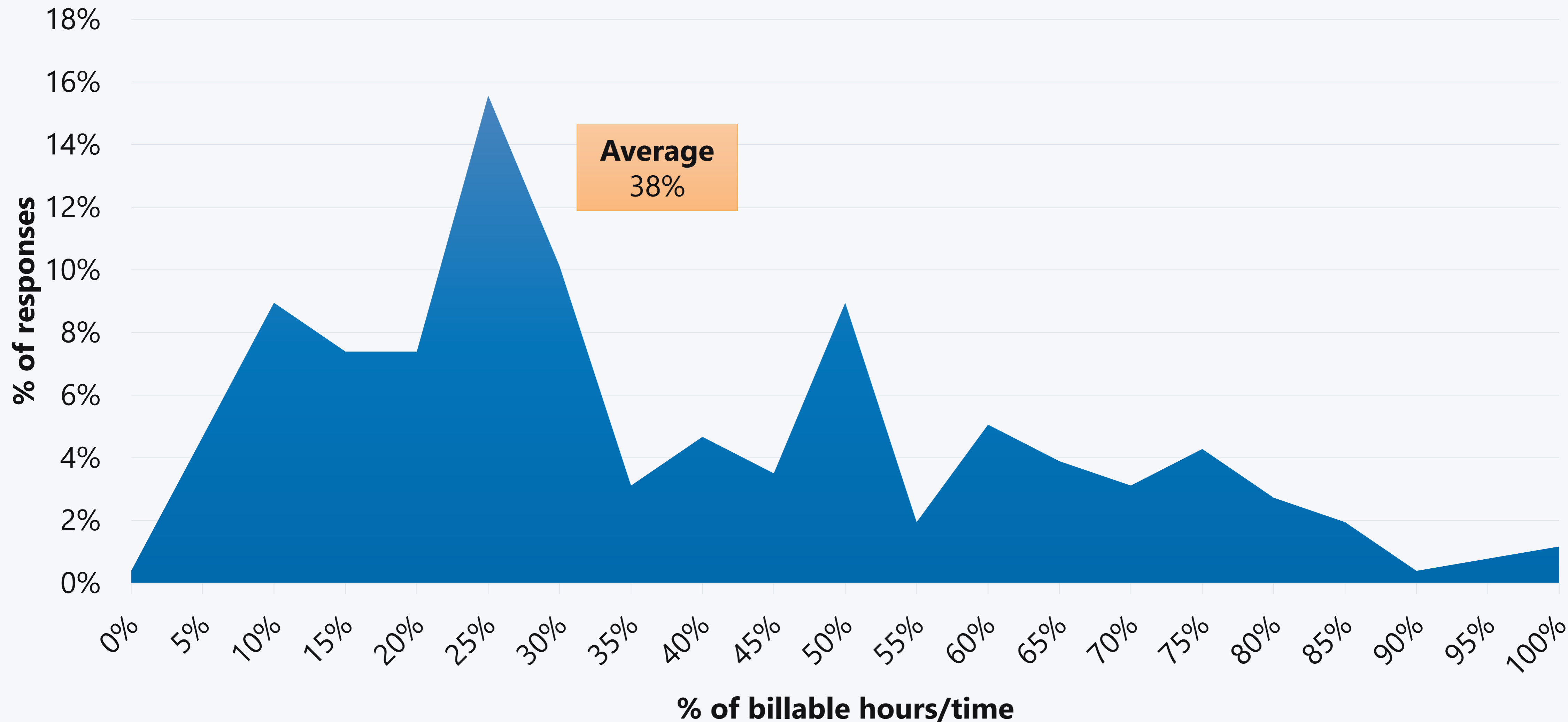


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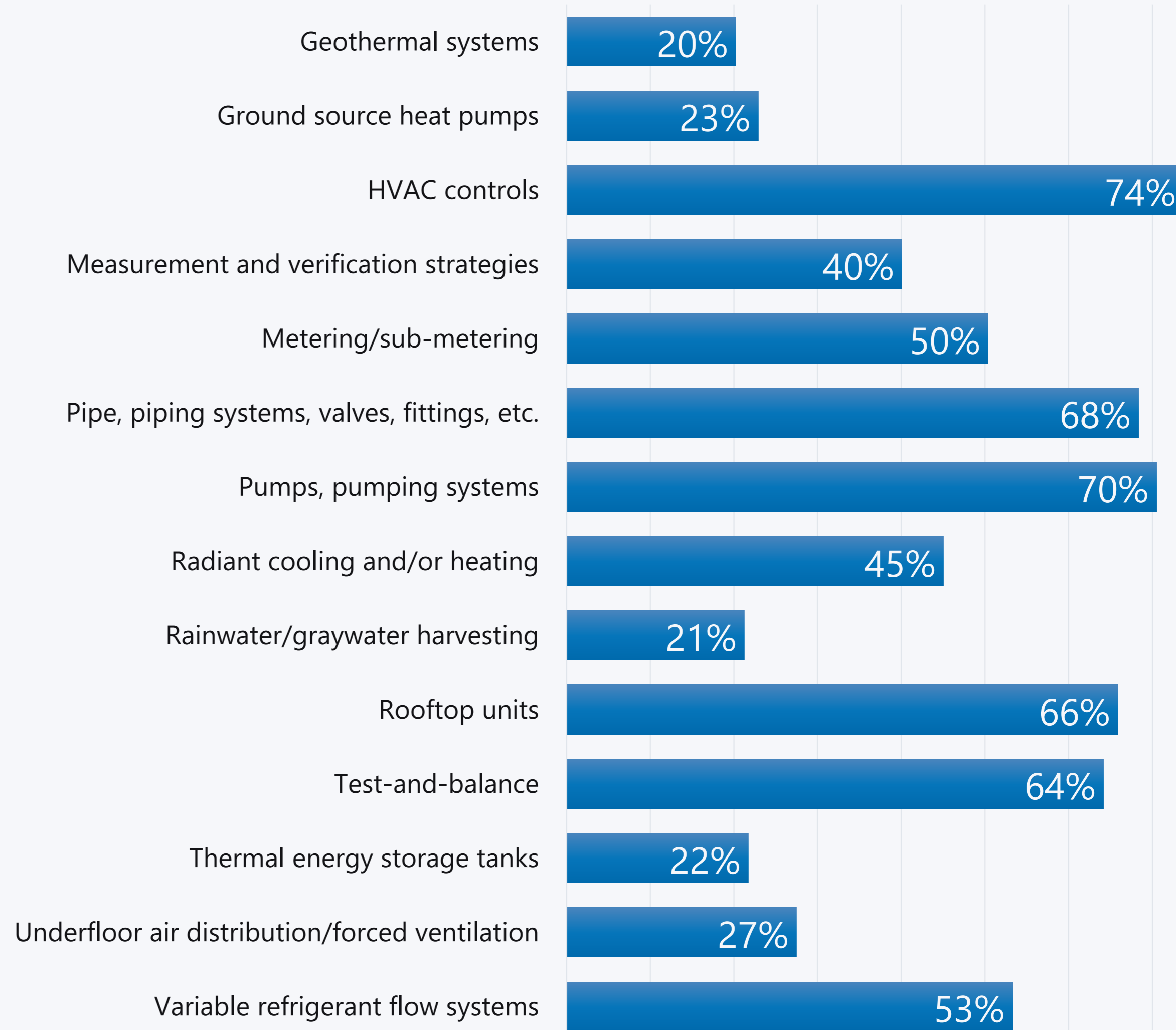
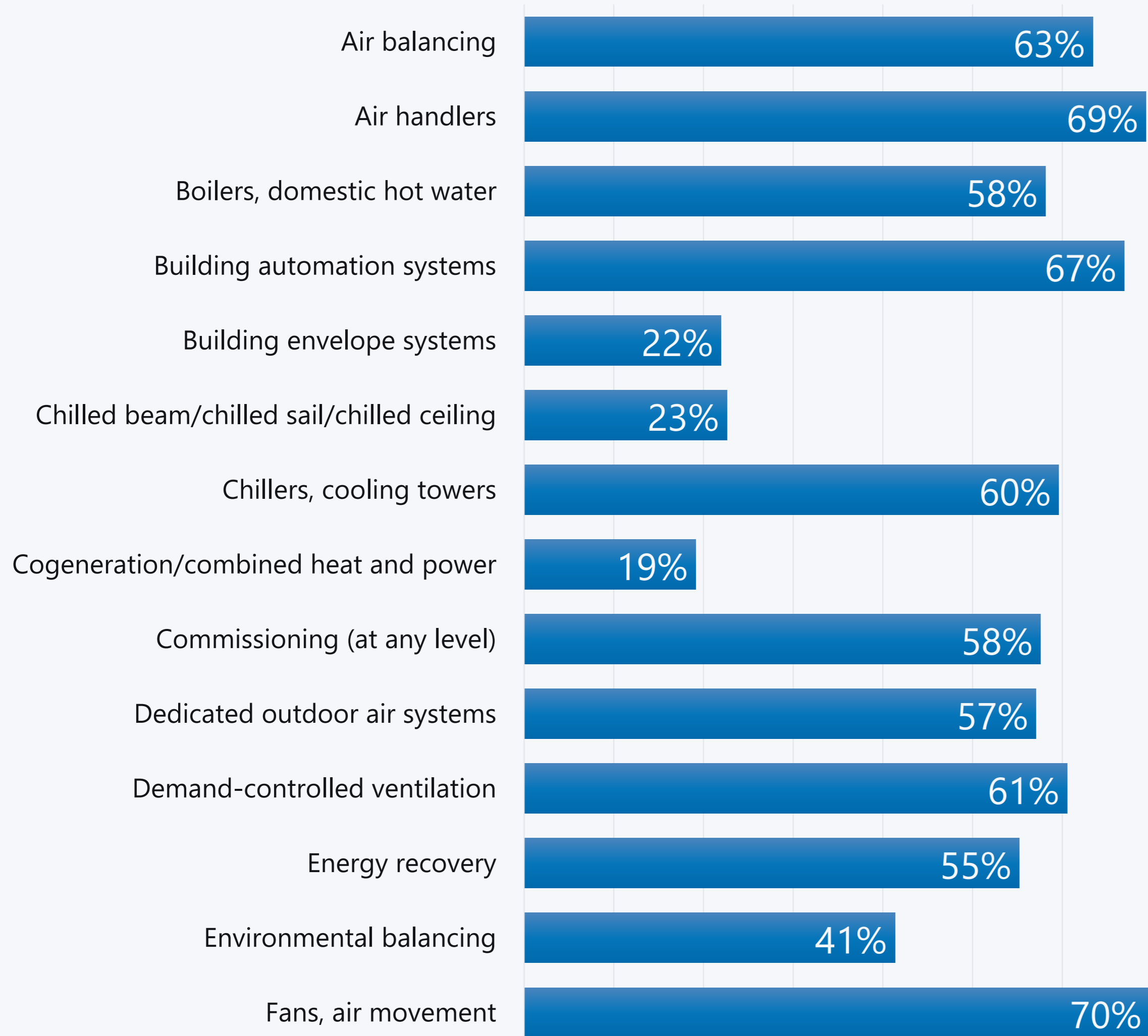
Involvement in Product Selections



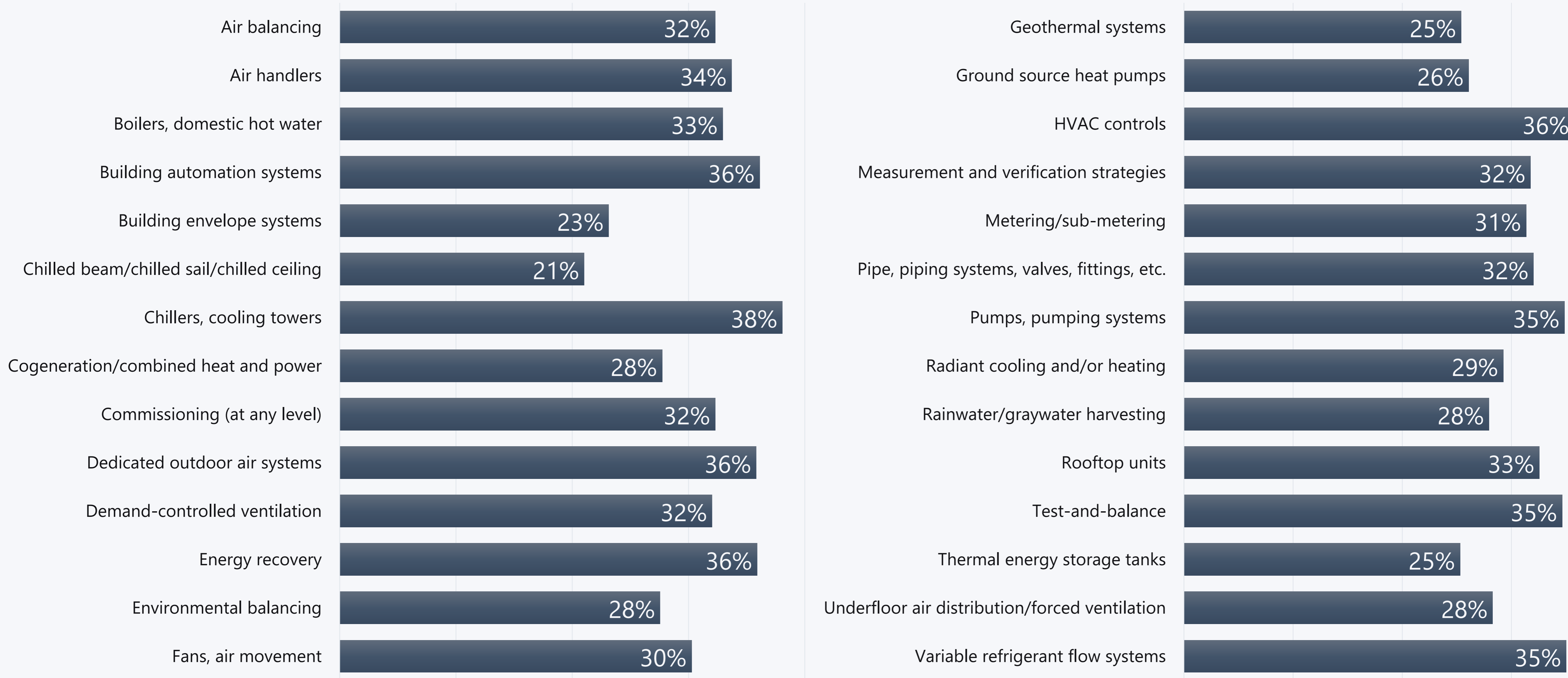
Time Spent Researching/Specifying



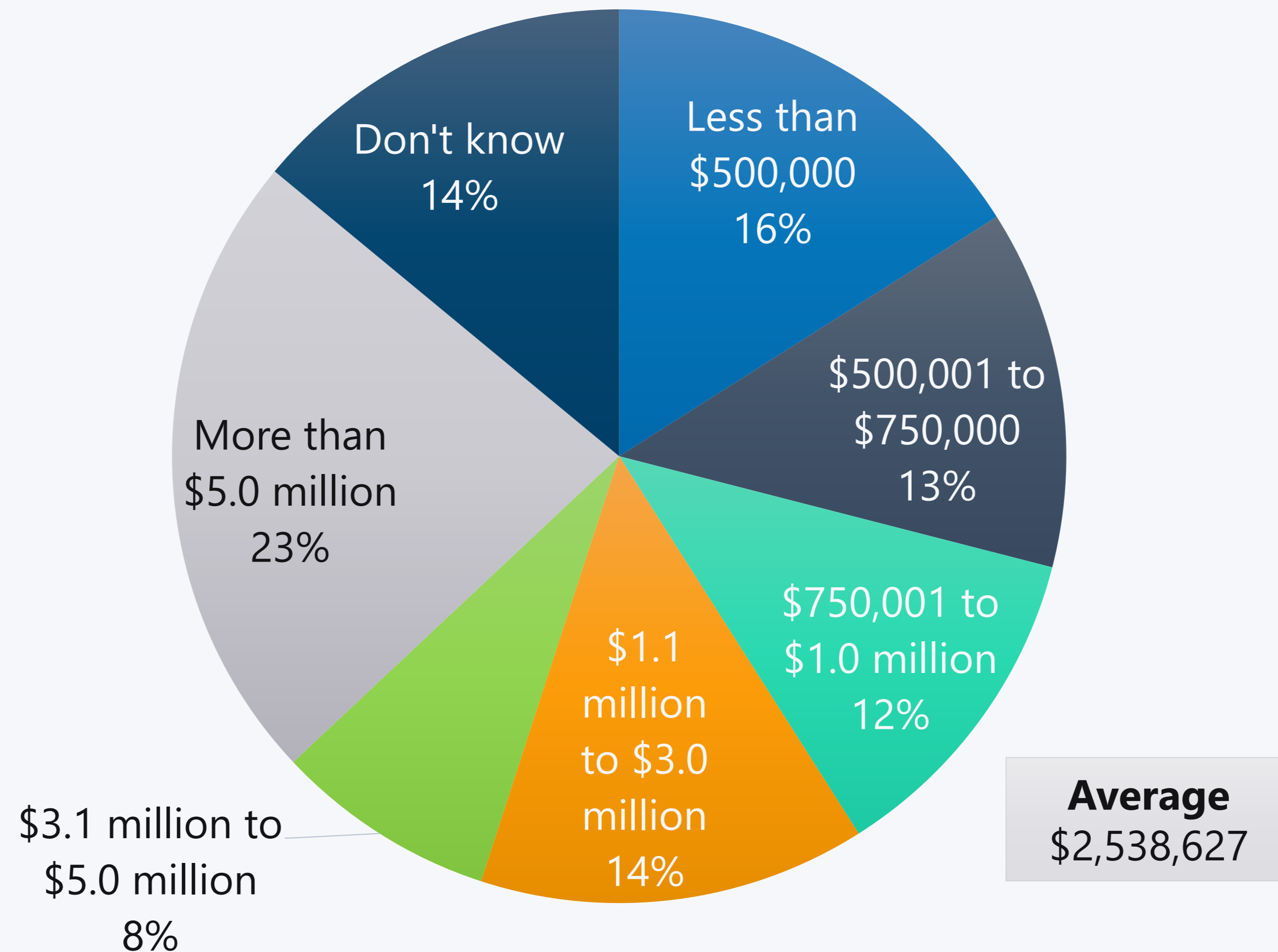
HVAC Equipment, BAS Specified



HVAC Equipment, BAS Expected to Specify

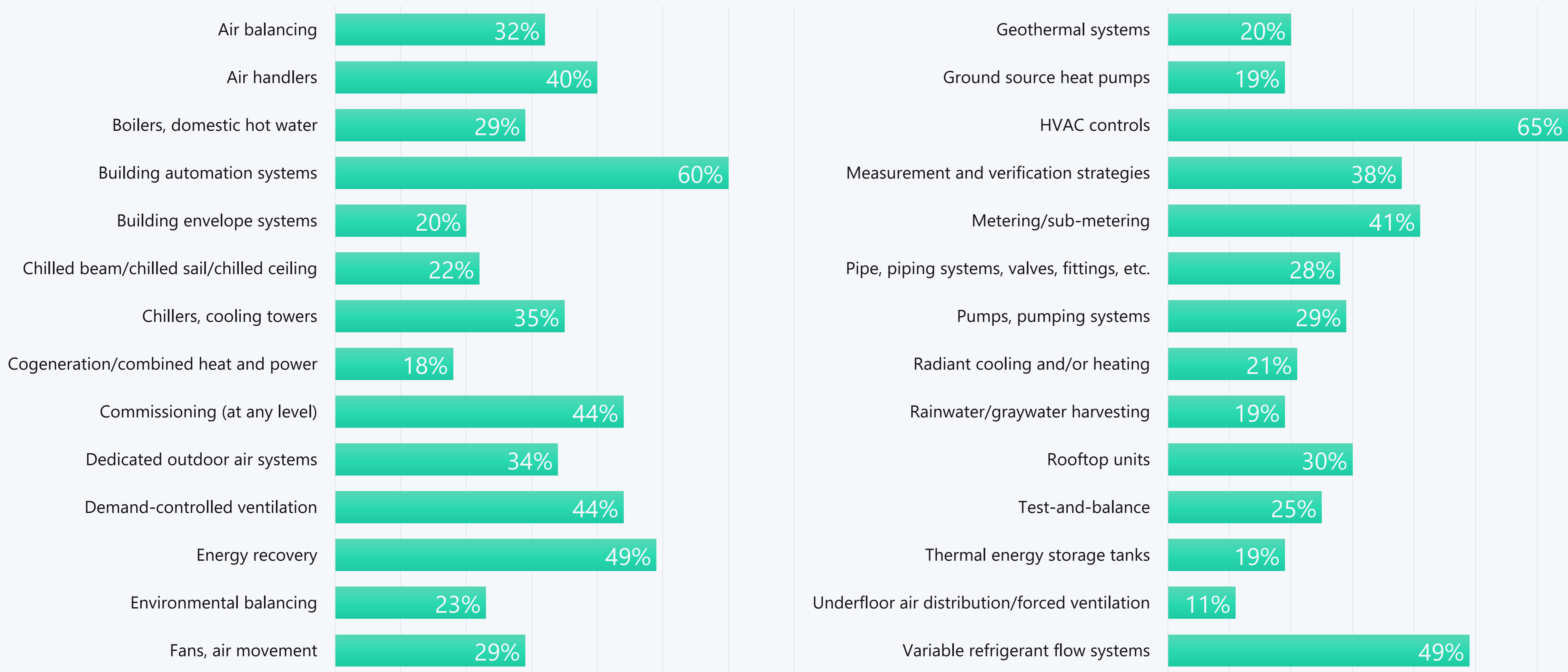


Dollar Amount Specified for HVAC, BAS



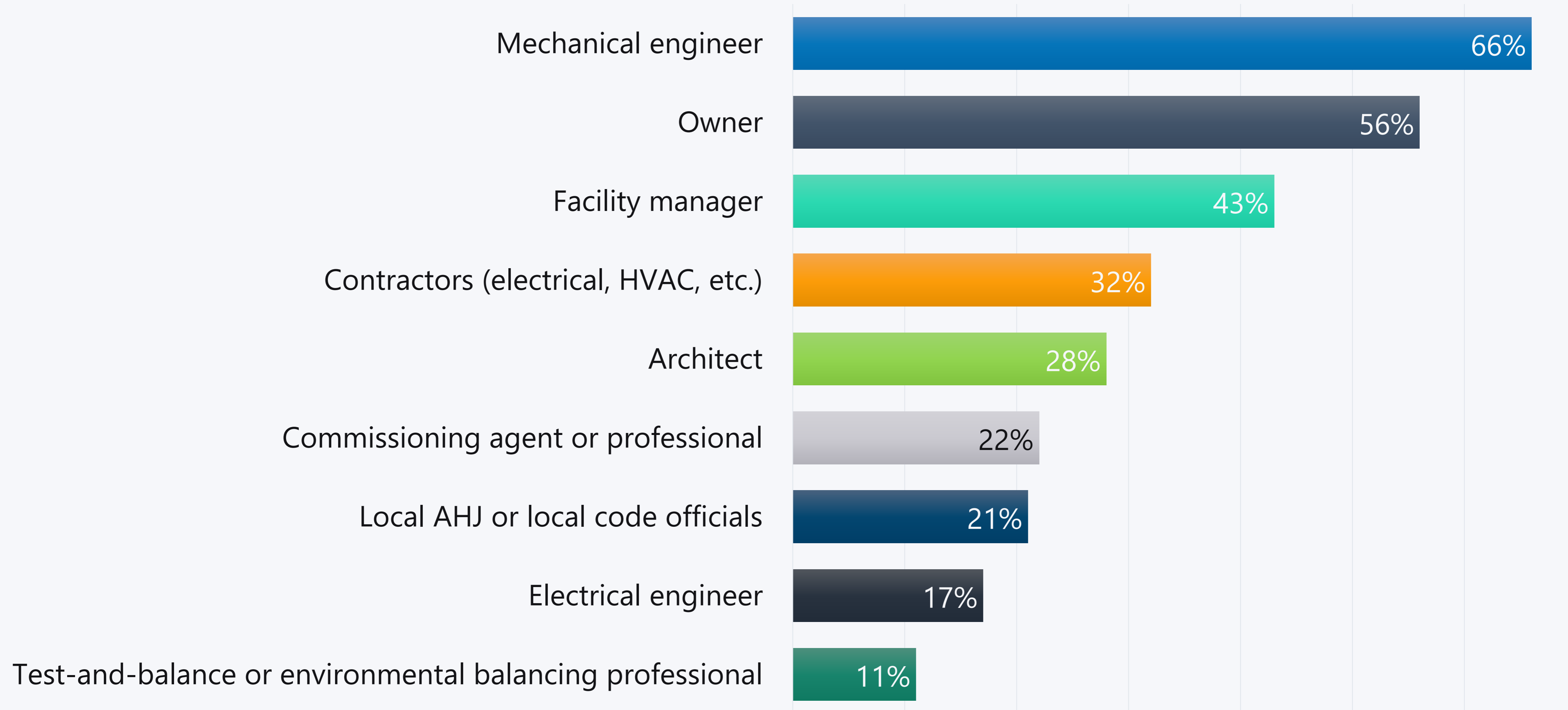
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Technologies in Demand

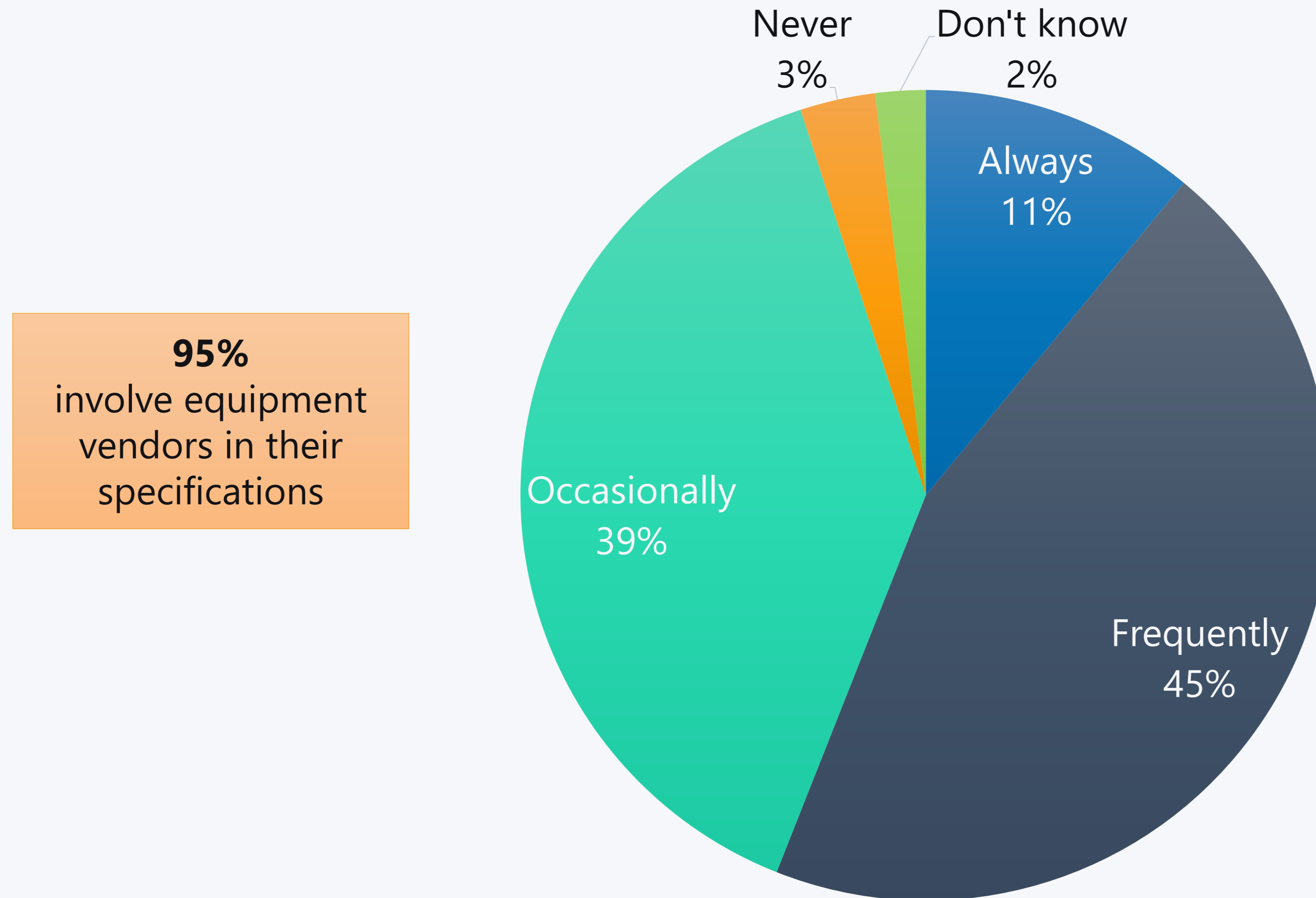


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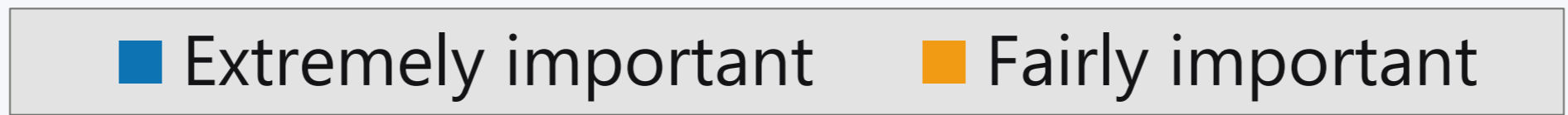
Design Coordination



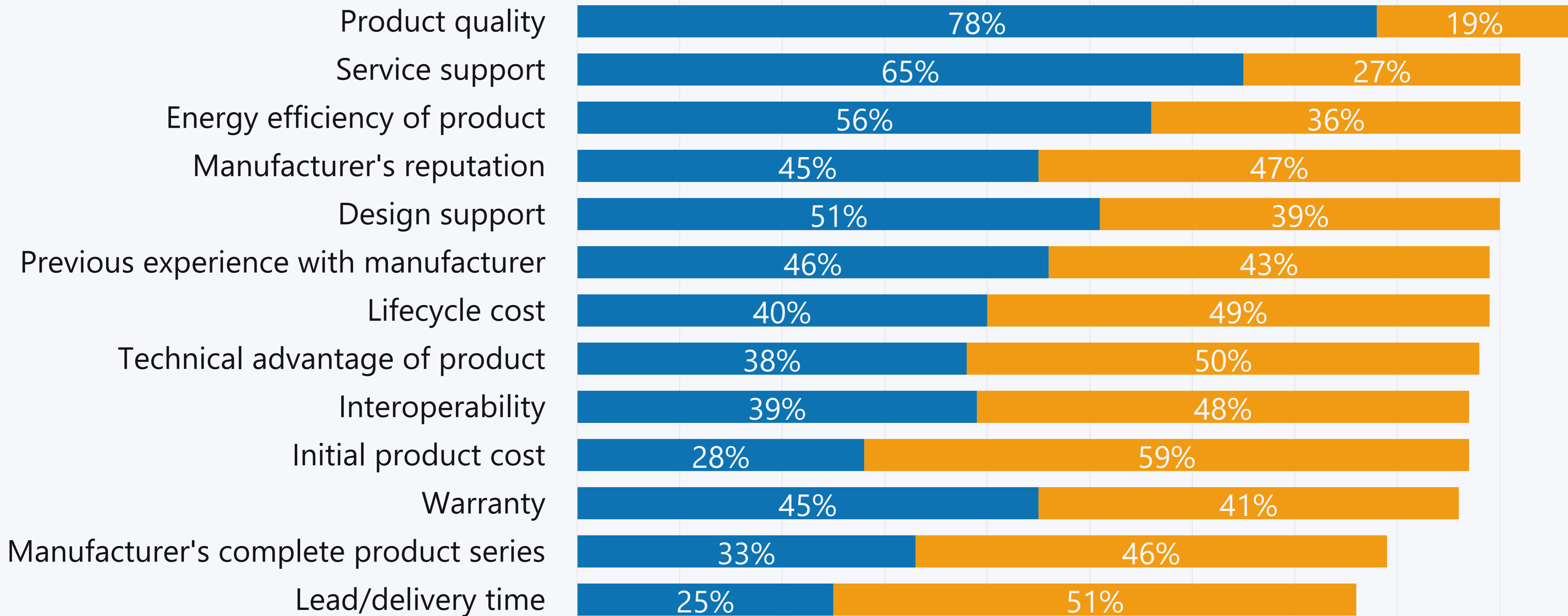
Equipment Vendor Involvement



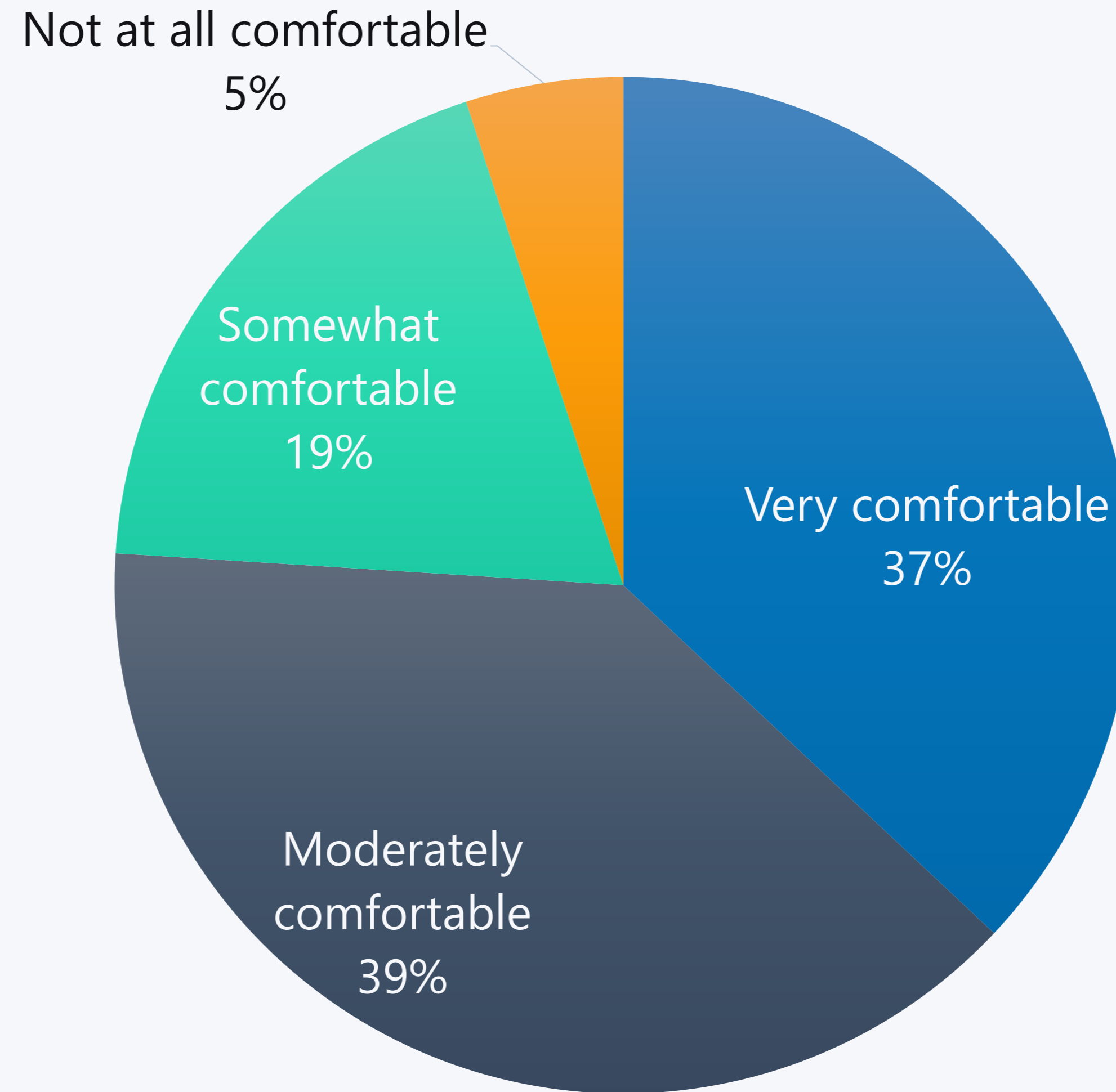
Important Product Factors



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

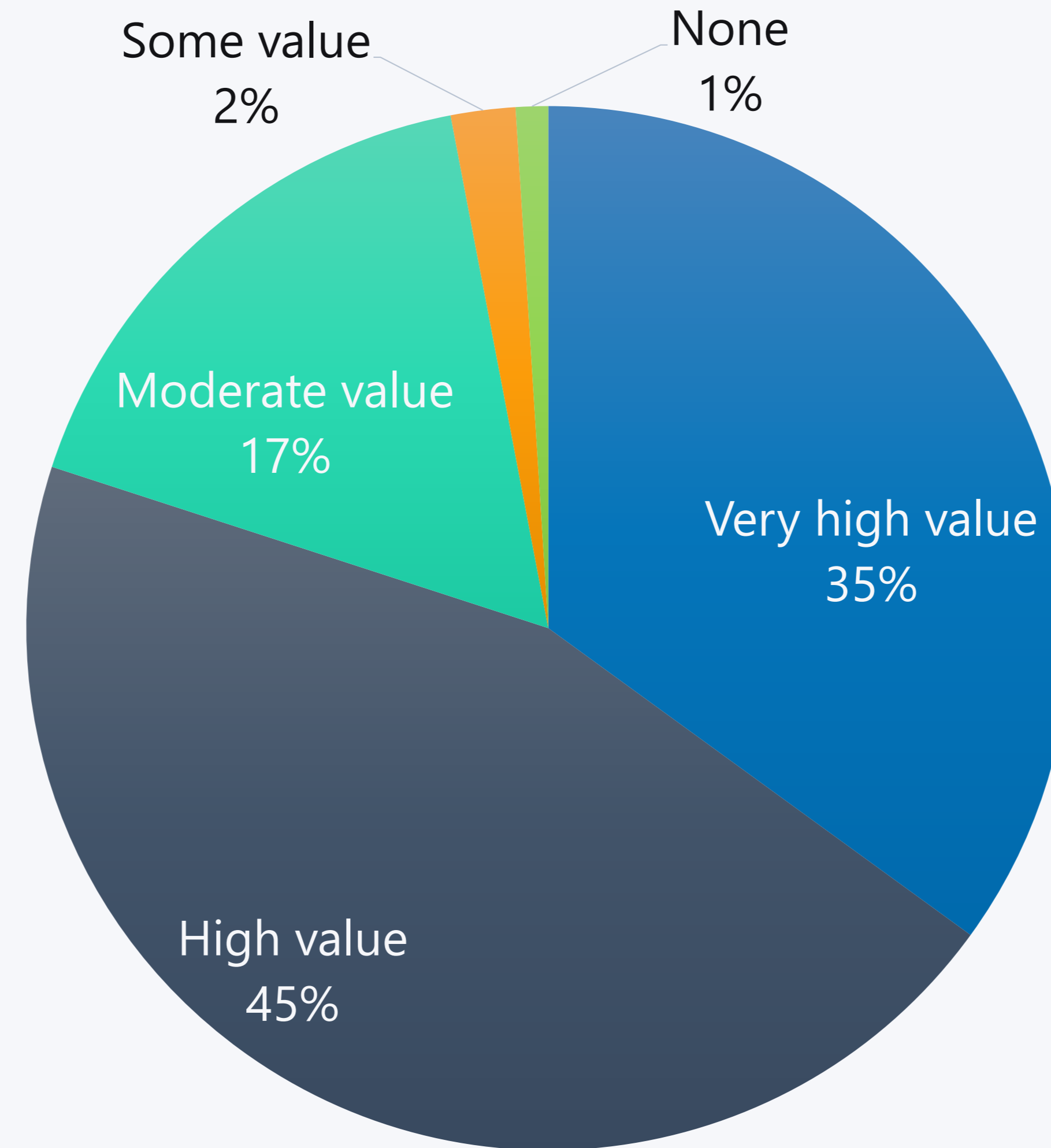


Integrating BAS with Other Systems

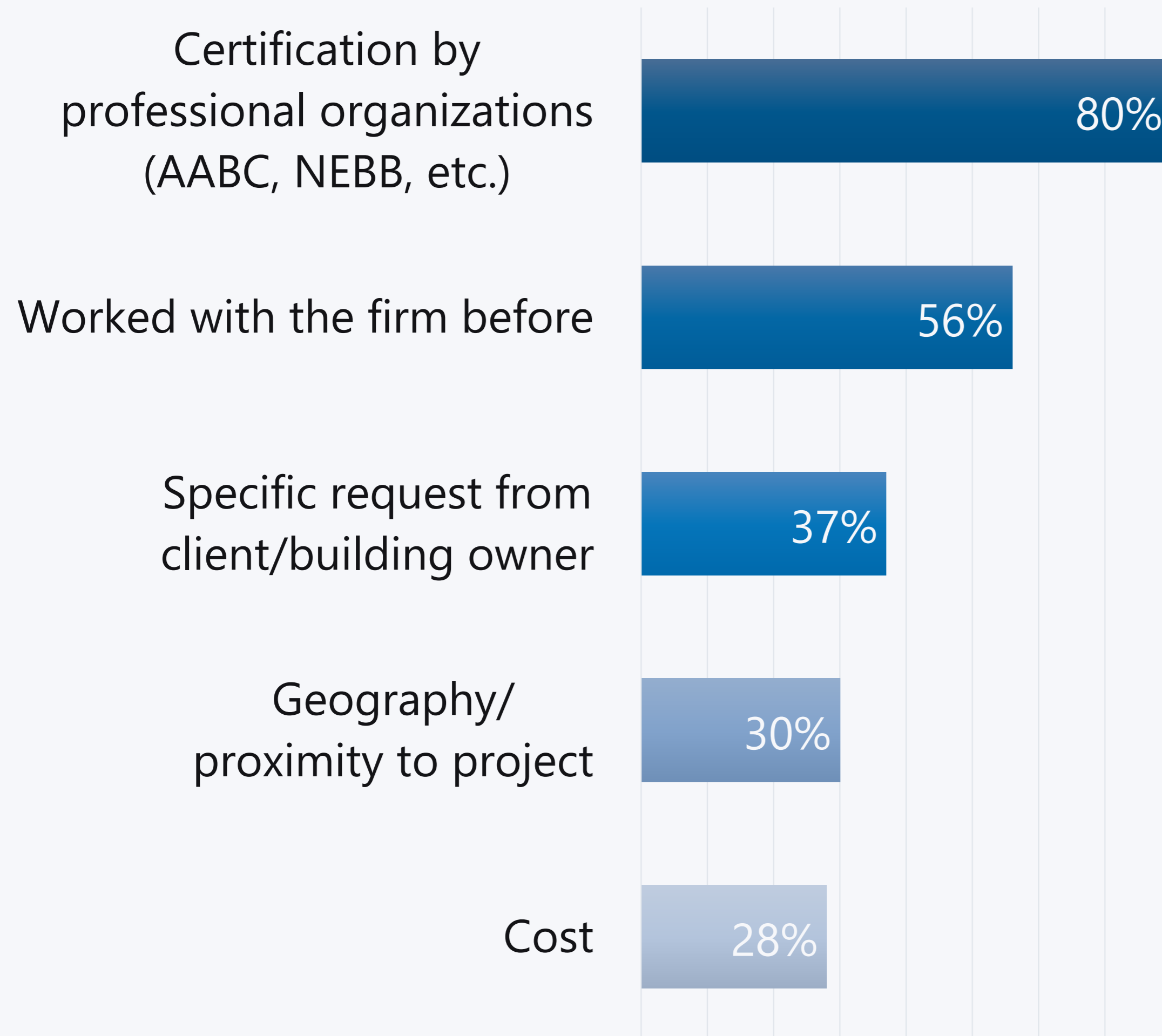


Test-and-balance, Environmental Balancing, Commissioning

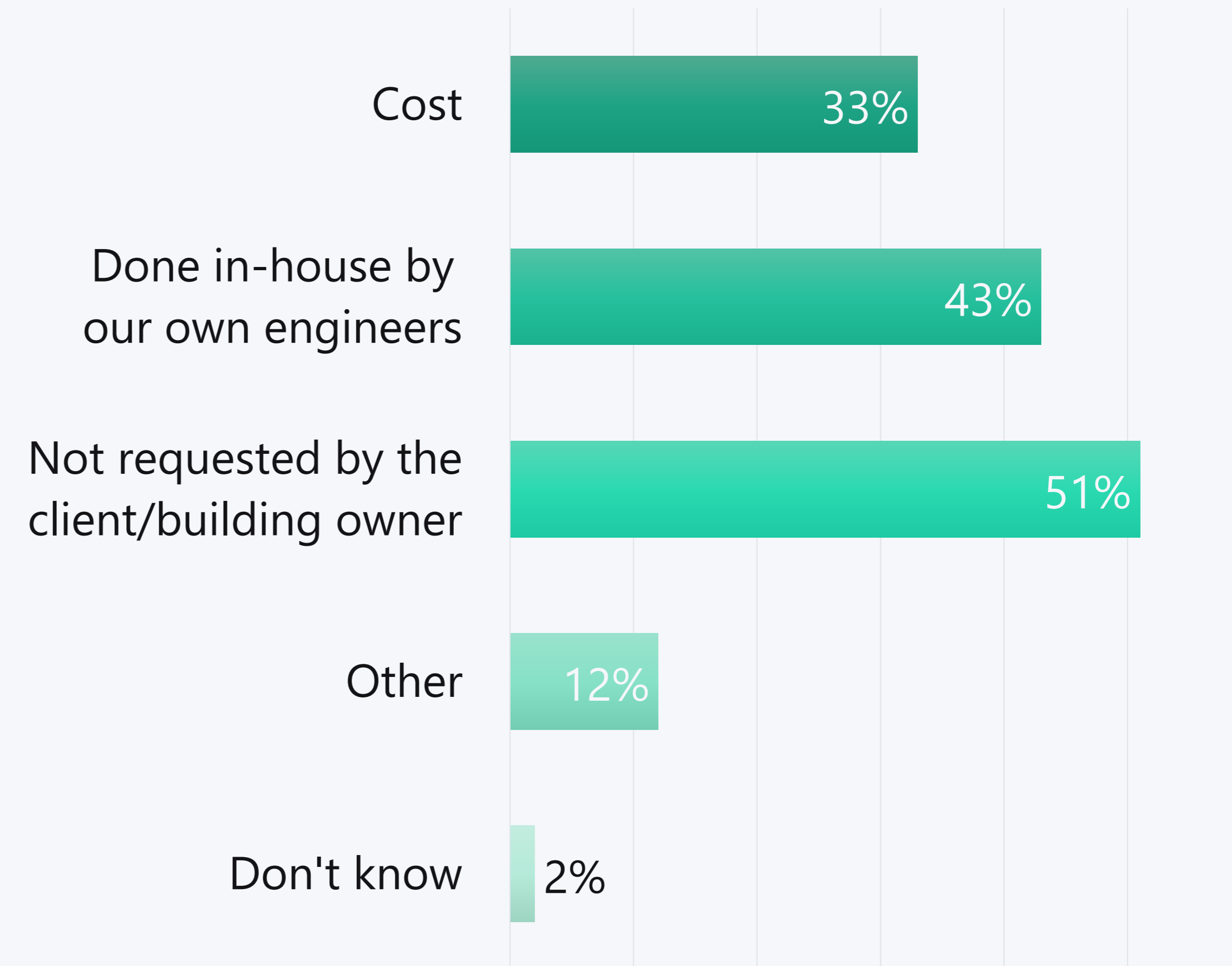
Test-and-balance, Environmental Balancing, Commissioning Role of Balancing or Commissioning Firms



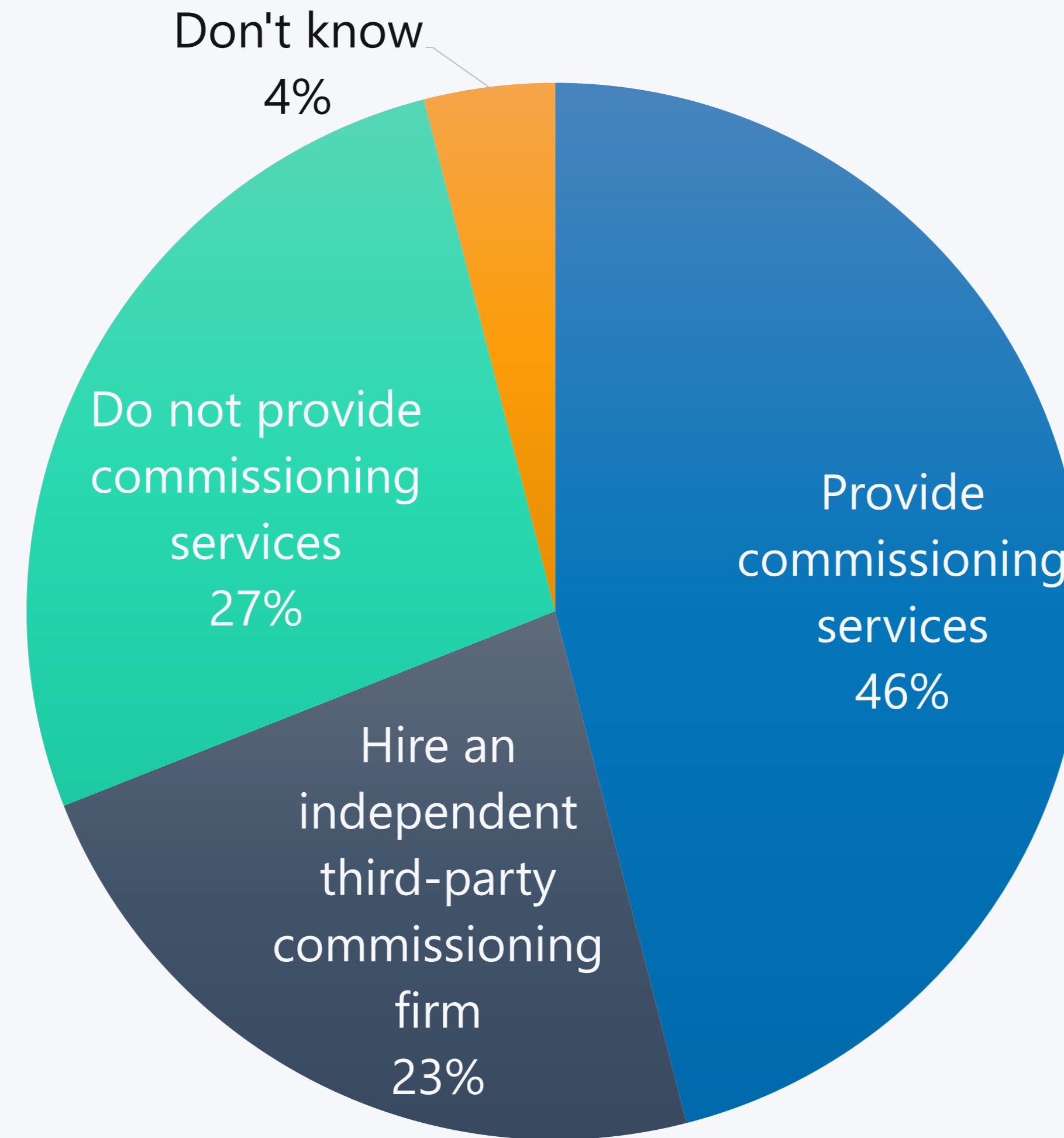
Deciding on Balancing Firms



Why Some Companies Don't Require Certifications from Balancing Firms

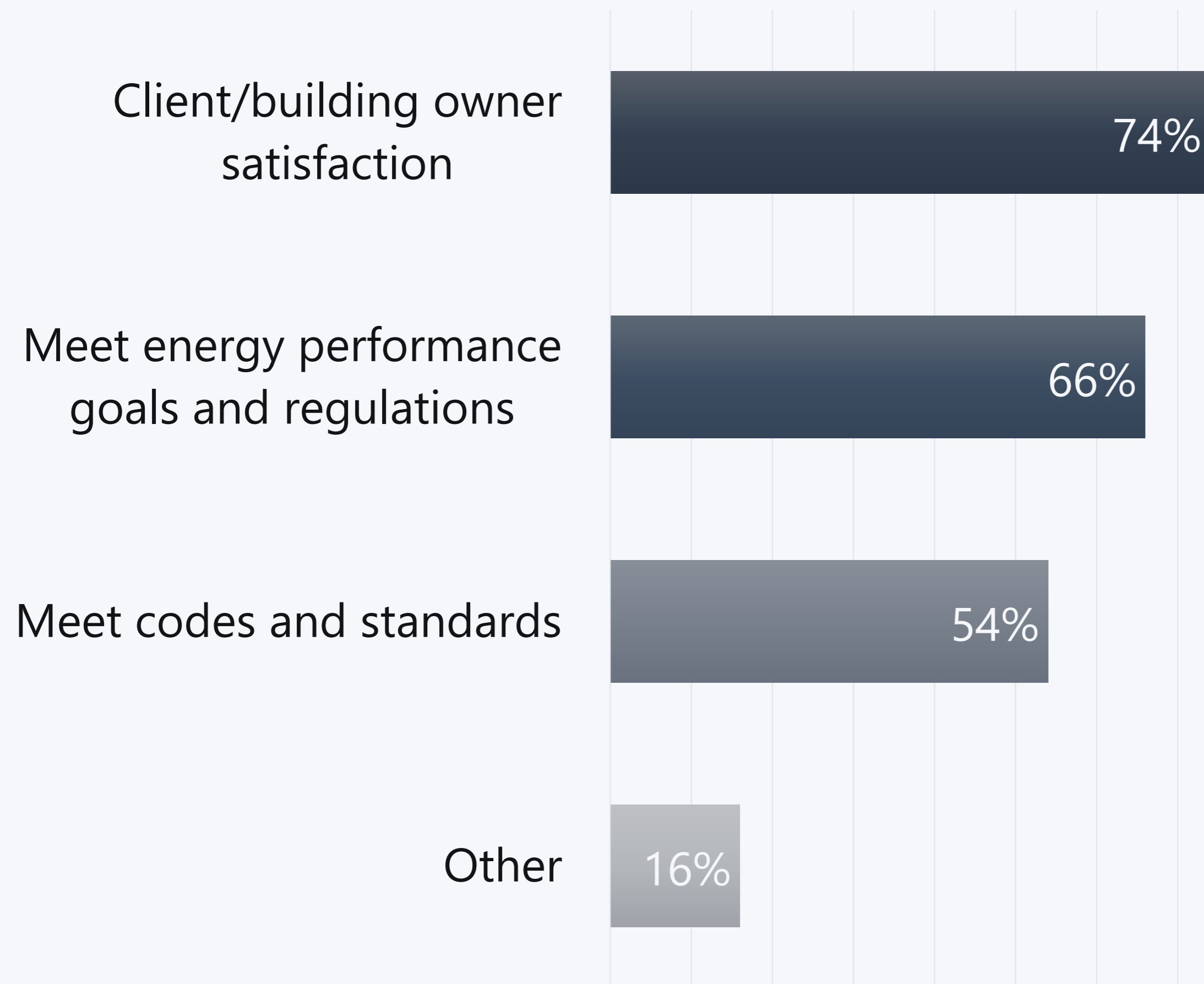


Test-and-balance, Environmental Balancing, Commissioning Commissioning Services



Test-and-balance, Environmental Balancing, Commissioning Benefits of Balancing, Commissioning Firms

Benefits to including balancing, commissioning firm in specifications

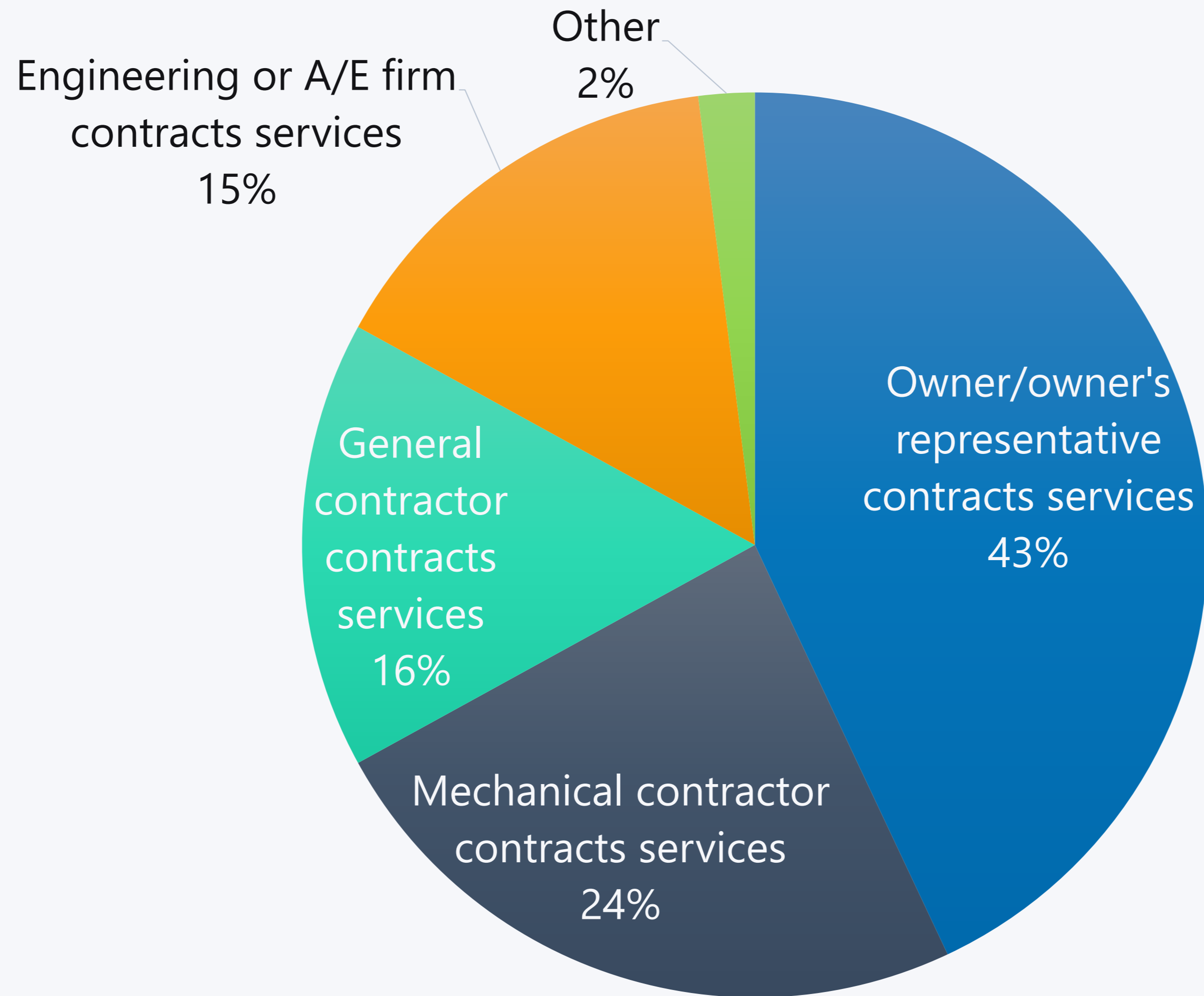


Leveraging skillsets, benefits of the balancing, commissioning firm



Test-and-balance, Environmental Balancing, Commissioning

Contracting a Third-party Professional



Additional Resources

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