

# Construction Industry Survey

A partnership between Teletrac Navman and Civil Contractors New Zealand

2022

Sunrise over Turitea Wind Farm construction

Photo by Tamarisk Howe, Mills Albert

# Foreword

**This is the sixth Construction Industry Survey, a research partnership between Civil Contractors New Zealand (CCNZ) and Teletrac Navman.**

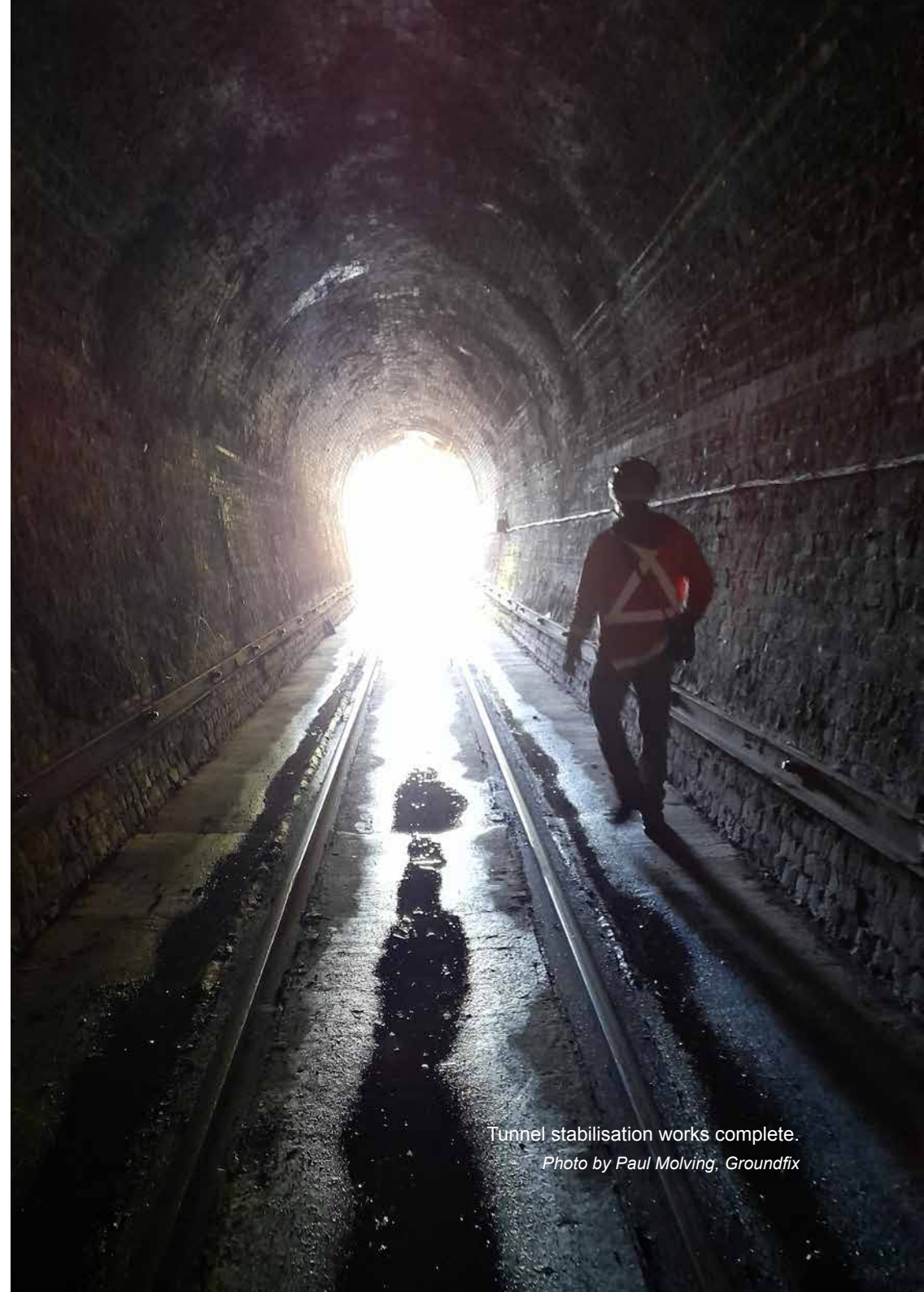
Our research helps to build a picture of New Zealand's civil construction industry and the experiences of those within the industry. The results shed light on the state of the industry and its outlook for the future, as well as stimulating discussion on industry views amongst private and public organisations, local and central government.



**Alan Pollard**  
CEO  
*Civil Contractors New Zealand*



**James French**  
Construction Industry Specialist  
*Teletrac Navman*



Tunnel stabilisation works complete.  
*Photo by Paul Molving, Groundfix*

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View from AHB  
bridge maintenance

Photo by Juan Castillo,  
Maxbuild

## Industry snapshot

Civil contractors build and maintain the nation's civil infrastructure including roading and transport, energy, water, communications and public infrastructure. They also provide services such as earthworks, utilities and foundations for the residential and commercial construction sectors.

**\$9.2 billion<sup>1</sup>** the value of national infrastructure activity in 2020

Estimated **60,000** people employed in civil construction industry



**Transport, water and subdivision projects** dominated new infrastructure activity in 2021, contributing **87%** of the projects and **83%** of the total value<sup>1</sup>

The wider infrastructure construction industry faces a shortfall of **118,500 workers** by 2024<sup>2</sup>

Project initiators from 2021 – 2026<sup>1</sup>



Local Government  
**41%**



Central Government  
**28%**  
(Predominantly transport projects)

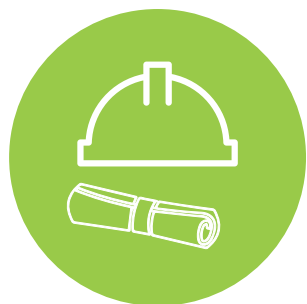


Private Sector  
**32%**  
(Predominantly subdivision projects)

<sup>1</sup> Ministry of Business, Innovation and Employment. (June 2022). *National Construction Pipeline Report 2021*. [www.mbie.govt.nz/dmsdocument/18150-national-construction-pipeline-report-2021](http://www.mbie.govt.nz/dmsdocument/18150-national-construction-pipeline-report-2021)

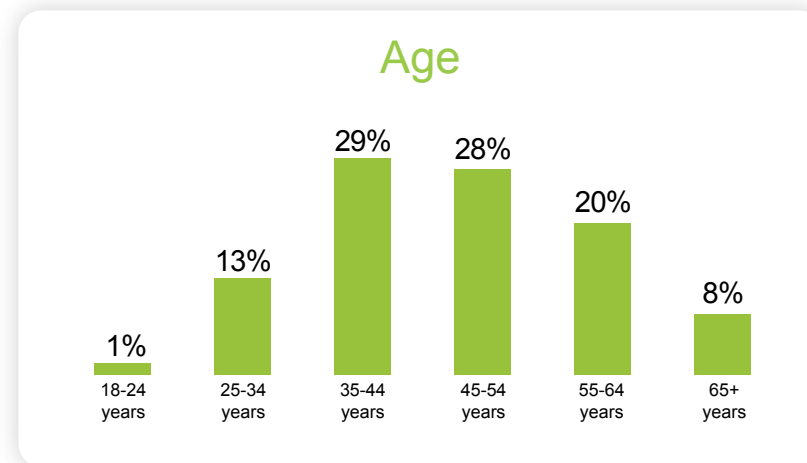
<sup>2</sup> Te Waihanga, New Zealand Infrastructure Commission. (May 2022). *New Zealand's first Infrastructure Strategy sets a path for a thriving Aotearoa*. [www.tewaihanga.govt.nz/news/commission-news/new-zealands-first-infrastructure-strategy-sets-a-path-for-a-thriving-aotearoa/](http://www.tewaihanga.govt.nz/news/commission-news/new-zealands-first-infrastructure-strategy-sets-a-path-for-a-thriving-aotearoa/)

# Demographics and methodology

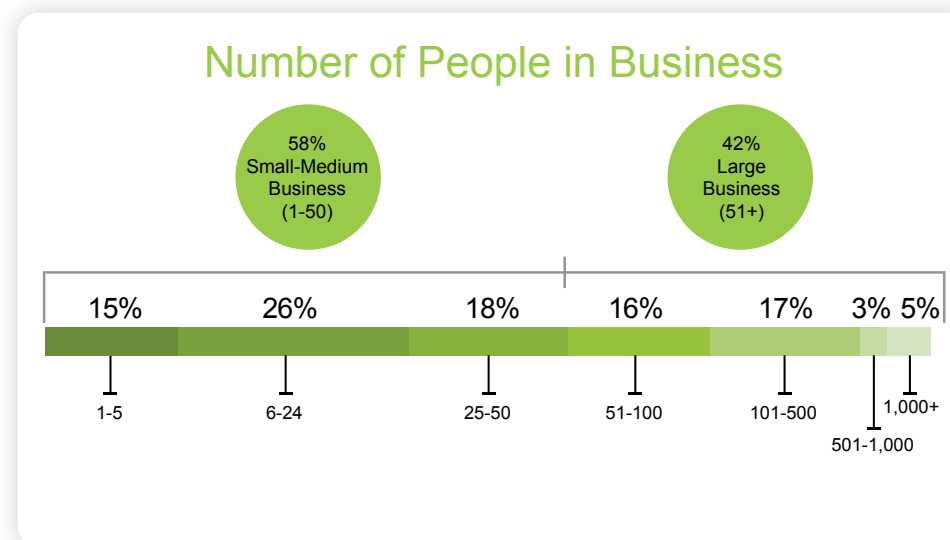
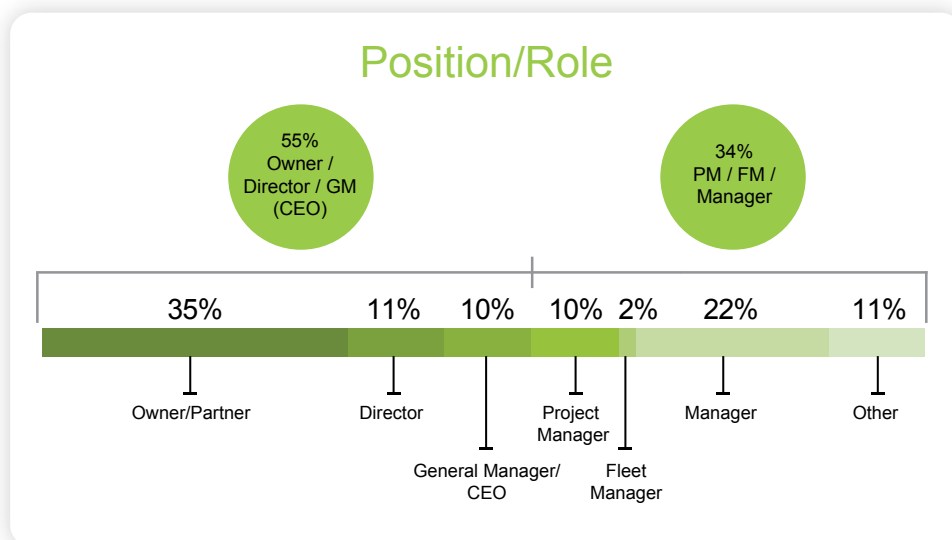


**226 adults** from the civil construction industry took the online survey from 16 May – 2 June 2022

Base: 2022 Total (n=226)




The survey was produced by Kantar. Margin of error for the total sample is + or - 7.7 percent at a 95 percent confidence level.



Some metrics may add up to 99% or 101% due to rounding adjustments

# Key Findings

Anchor testing at Waimakiriri Bluff  
*Photo by Charles Loader, Abseil Access*



The civil construction industry is facing major pressures, including cost escalation, a constrained workforce and increasingly complex contract terms and negotiations. Without action, the outcomes that New Zealand needs from infrastructure may be at risk.

A civil construction field worker in action

Photo by Cairo Samson, Ormsby Civil

### Skills and worker shortage.

Year-on-year the industry has had consistent demand for more talent. Clients have also been asking contractors to increase capacity – however, they are constrained by a tight labour market. The industry is calling for the Government and other partners to help it fill the shortage through the two main channels: the education system and immigration. Positively, businesses are putting in place incentives to attract workers, from increased pay to flexible hours. There has been an increase in the number of staff undertaking study and qualifications following the introduction of the Government’s Apprenticeship Boost funding.

### Cost escalation and supply chain issues.

Supply chain issues, coupled with fluctuating costs and inflation are heavily affecting the industry. These challenges have sharply risen to the top of the list from previous years. A strong majority of contractors see these factors as a major barrier to future growth. They are also leading to increased administrative costs, such as the need to renegotiate contracts or scramble to source alternative materials and equipment. 90 per cent of contractors reported their businesses had been impacted by cost escalation or supply chain issues in the past year.

### The need to build capacity and capability.

Te Waihanga/The New Zealand Infrastructure Commission forecasts Government spend on water projects will increase from just over \$1 billion in 2022 to nearly \$1.8 billion by 2024<sup>1</sup>. It also found that electricity generation capacity needs to increase by around 170 percent to meet net zero carbon goals<sup>2</sup>. Clearly, New Zealand has a heavy demand for new infrastructure, as well as upgraded infrastructure, to meet the needs of the population now and in the future.

1 Te Waihanga New Zealand Infrastructure Commission. (June 2022). Infrastructure Quarterly May 2022. <https://www.tewaihanga.govt.nz/projects/infrastructure-quarterly/infrastructure-quarterly-may-2022/>

2 Te Waihanga New Zealand Infrastructure Commission. (May 2022). New Zealand’s first Infrastructure Strategy sets a path for a thriving Aotearoa. <https://www.tewaihanga.govt.nz/news/commission-news/new-zealands-first-infrastructure-strategy-sets-a-path-for-a-thriving-aotearoa/>

# Industry snapshot

## Key industry issues

**71%**

want a clearer pipeline of central and local government work

**59%**

think that the ability to employ migrant workers under new visas and accreditations will have a **positive** impact for the industry

**67%**

feel fluctuating costs are a challenge for future growth. A significant rise from 45% in 2021 and 15% in 2020.

## Industry outlook / confidence

**90%**

have been significantly impacted by cost escalation and supply chain issues

**41%**

are confident in the outlook for the **construction industry**

**52%**

are predicting turnover growth in the next year

## Workforce

**84%**

say **skills shortage** is a challenge to industry growth

**87%**

would **hire** today if the right skills were available

**79%**

have staff working on a nationally recognised qualification or apprenticeship

## Technology & procurement

**23%**

were required to use certain technology to bid for client work (e.g. GPS & BIM)

**65%**

have been asked by clients to increase their capacity to take on work

**62%**

refused a tender or did not bid for work due to unsuitable contract terms





Paving the new Transmission Gully highway  
Photo by Caleb Clark, Fulton Hogan

# Industry Issues

Pugmill operation at a Northland quarry  
*Photo by Zac Johnstone, United Civil*



## Top 5 events / issues with most positive impact in the next 3 years

Year on year, the development of a clearer pipeline of government work is chosen as the issue that will make the biggest positive impact on civil contractor's business in the next 3 years. The industry is also clear that migrant workers are sorely needed and would be positive for their workforce.

Q1. What impact do you think these actual or potential issues/events could have on your business in the next three years?

Base: 2022 Total (n=226), 2021 Total (n=161), 2020 Total (n=188)

A bitumen emulsion sprayer in action

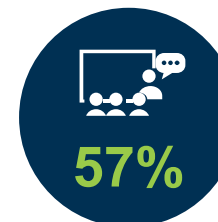
*Photo by Ash Roberts, Robust Engineering*



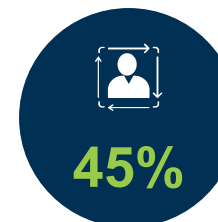
Development of a clearer pipeline of Government and local government work



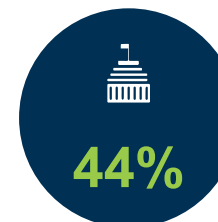
Immigration – ability to employ migrant workers under new visas and accreditation



Government's increased procurement emphasis on training and development of people and other social outcomes



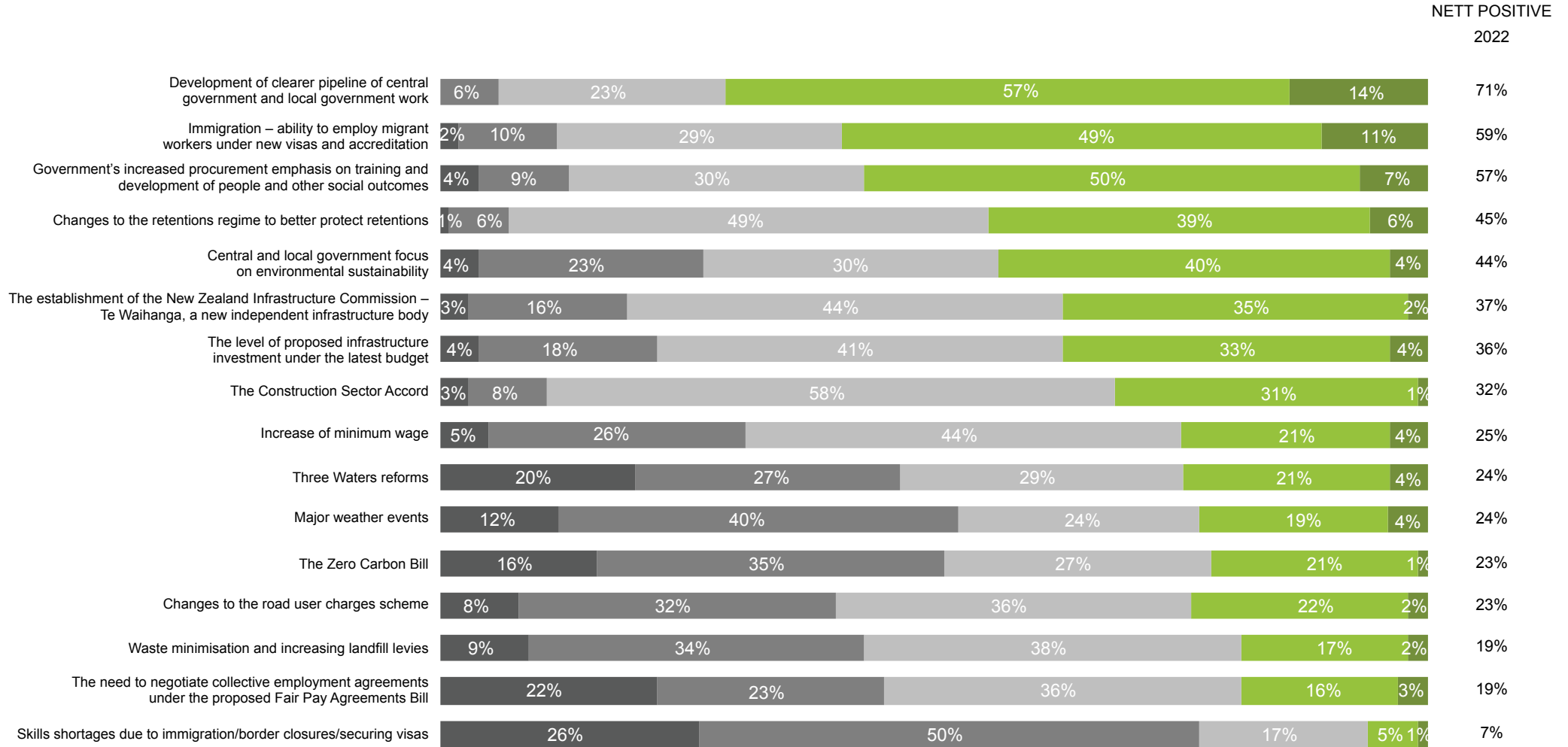
Changes to the retentions regime to better protect retentions



Central and local government focus on environmental sustainability

## Expected impact in the next three years

A high negative impact
  A negative impact
  No significant impact
  A positive impact
  A high positive impact



Q1. What impact do you think these actual or potential issues/events could have on your business in the next three years?

Base: 2022 Total (n=226), 2021 Total (n=161), 2020 Total (n=188)



Asphalting in action

Photo by Jesse Jamieson, JCL Asphalt

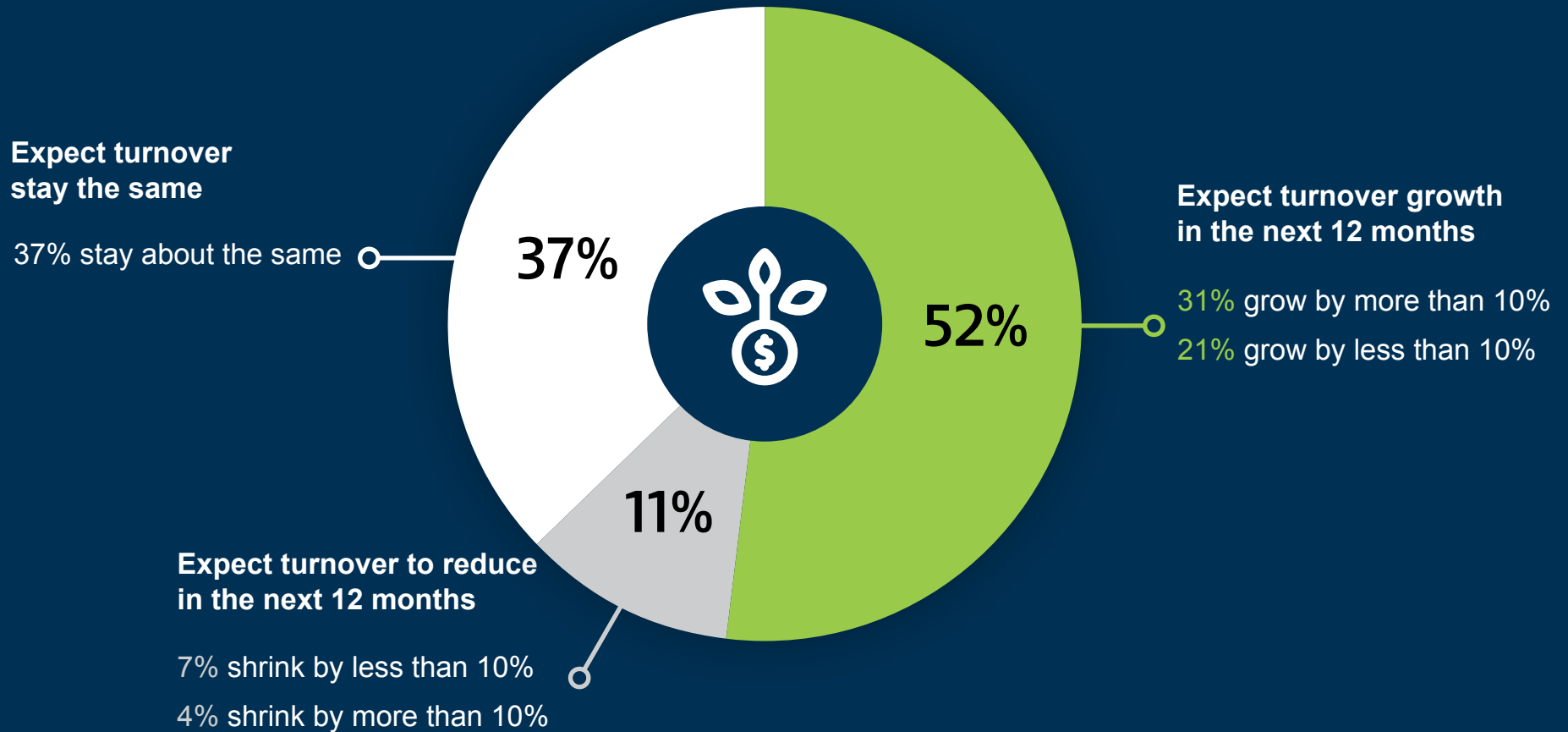
# Industry Outlook

The outlook from a Wairarapa construction site

*Photo by Ollie Paterson, Mr Dig*

# Expected turnover change in the next 12 months

Business growth expectations remain similar to last year, with just over a third expecting their turnover to remain the same, and just over half expecting growth in the next 12 months.

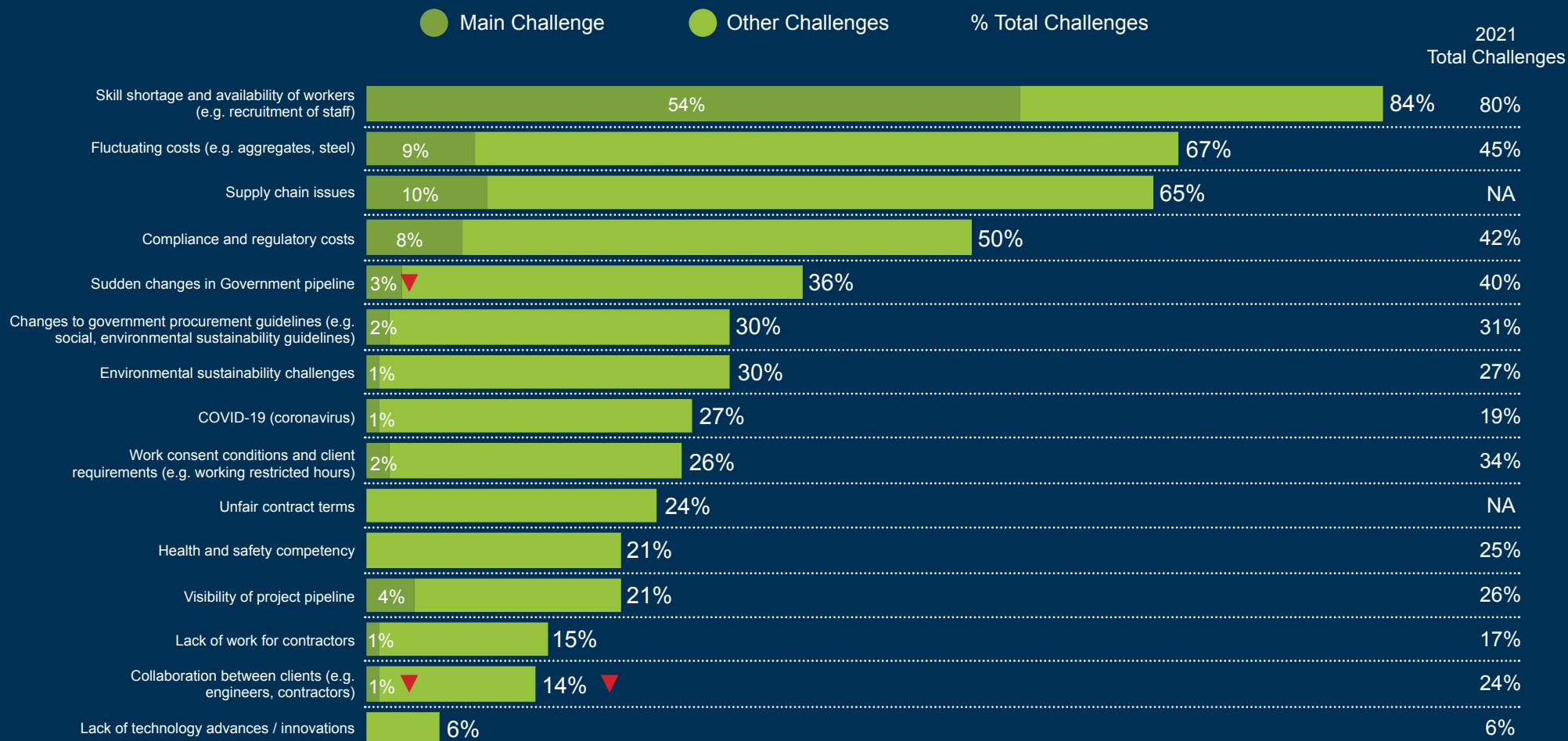


Q2. Do you expect that your turnover will grow, stay about the same, or shrink in the next 12 months?

Base: 2022 Total (n=226), 2021 Total (n=161), 2020 Total (n=188)

# Construction industry challenges to future growth

Unaddressed skill and worker shortages have been compounding, so that in 2022, this remains the largest challenge facing the industry. The results also reveal a strong theme of cost pressure with the challenge of fluctuating costs significantly increasing in 2022. Alongside of this, increased compliance and regulatory costs are also emerging as an issue. Supply chain issues add further pressure.



Q7a. What challenges do you think the construction industry is facing for future growth? / Q7b. And what is the main challenge in the construction industry?

▲ ▼ Significantly higher / lower than previous

Base: 2022 Total (n=226), 2020 Total (n=188)



## Civil construction businesses are confident in...

While contractors were increasingly confident in the future pipeline of work and the resilience of their own businesses, there was a distinct fall in confidence for the outlook for the industry as a whole, and for the Government commitment to infrastructure. This may reflect the concerns around cost escalation and increasing demands on contractors from clients.



**63%**

+2

The ability of your business to withstand change and overcome challenges



**45%**

-7

The ability of new technology to improve business efficiency and overcome challenges



**41%**

-9

Civil construction industry outlook



**39%**

+4

The future pipeline of civil construction work



**18%**

-7

The Government's commitment to infrastructure



**17%**

-1

The ability of New Zealand's infrastructure to cope with climate change (e.g. erosion, severe weather events)

Q5. Thinking about the future, how confident are you in...

Base: 2022 Total (n = 226)

+ / - differences from previous  
Significantly higher / lower than total

▲ ▼ Significantly higher / lower than previous

## Cost escalation and supply chain issues

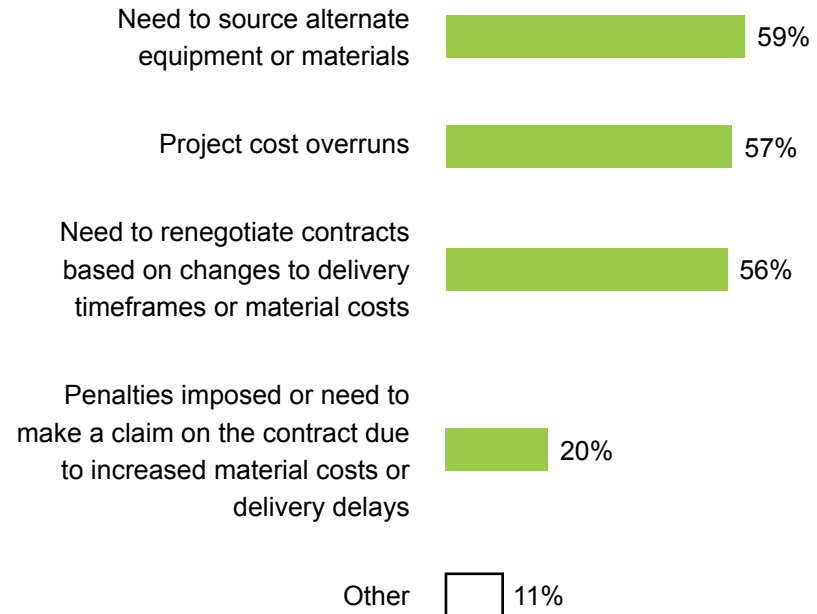
Over the past year, the majority of contractors have been significantly impacted by supply chain issues. Cost are rapidly increasing and resources are so difficult to source. As a result, contractors and clients are needing to re-negotiate contracts which can be time consuming and add tension to the client-contractor relationship.



# 90%

**of businesses say they have been significantly impacted by cost escalation and supply chain issues over the past 12 months**

### Significant impacts experienced by business



Q2\_22. Has your business been significantly impacted by cost escalation and supply chain issues over the past 12 months?

Base: Total (n=226) / Q3\_22 If so, what significant impacts has your business experienced? Base: Those who have been significantly impacted (n=203)



Contractors responding to a large flooding event to clear debris and prevent damage

*Photo by James Sokalski,  
JPS Earthmoving*

# Workforce



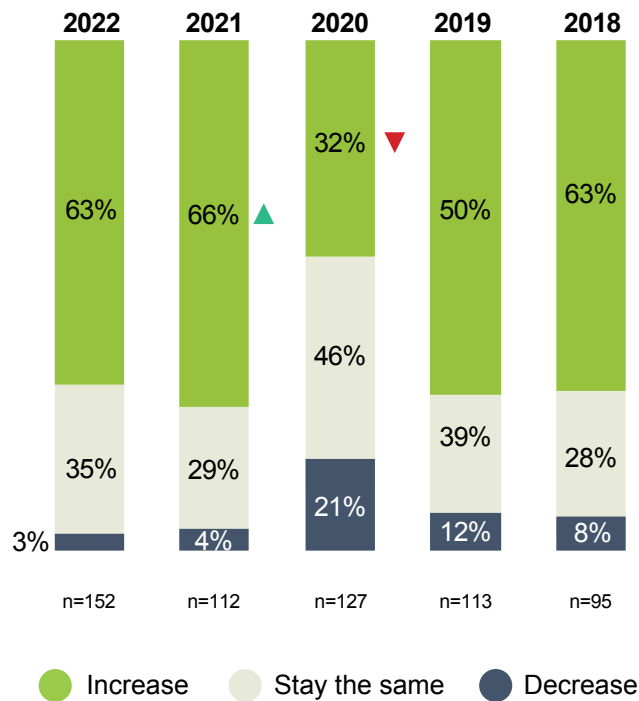
The crew taking  
a moment together

*Photo by Ben Lunjevich,  
Dempsey Wood*

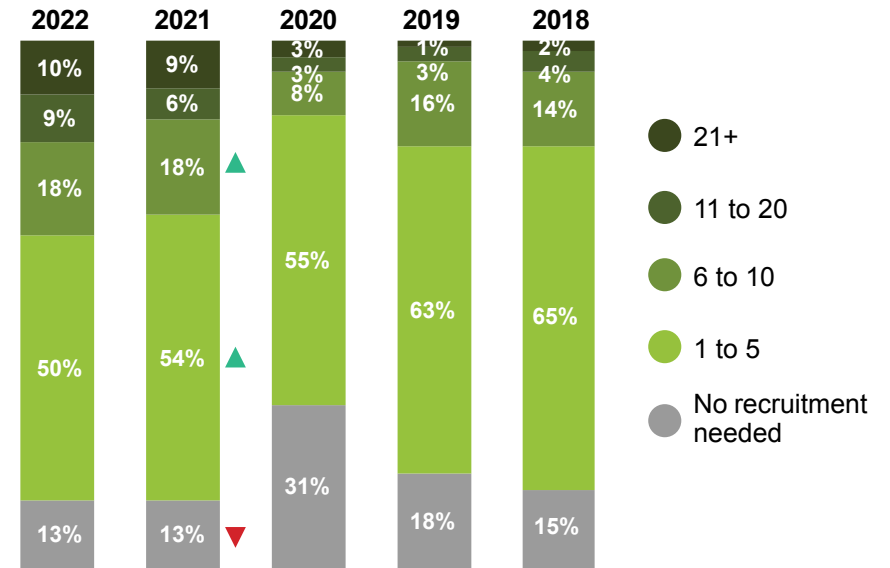
# Staffing / workforce requirements

With the exception of 2020, the civil construction industry has had an ongoing demand for workforce over the past 5 years.

Requirement for staff in the next year



Number of staff would recruit today

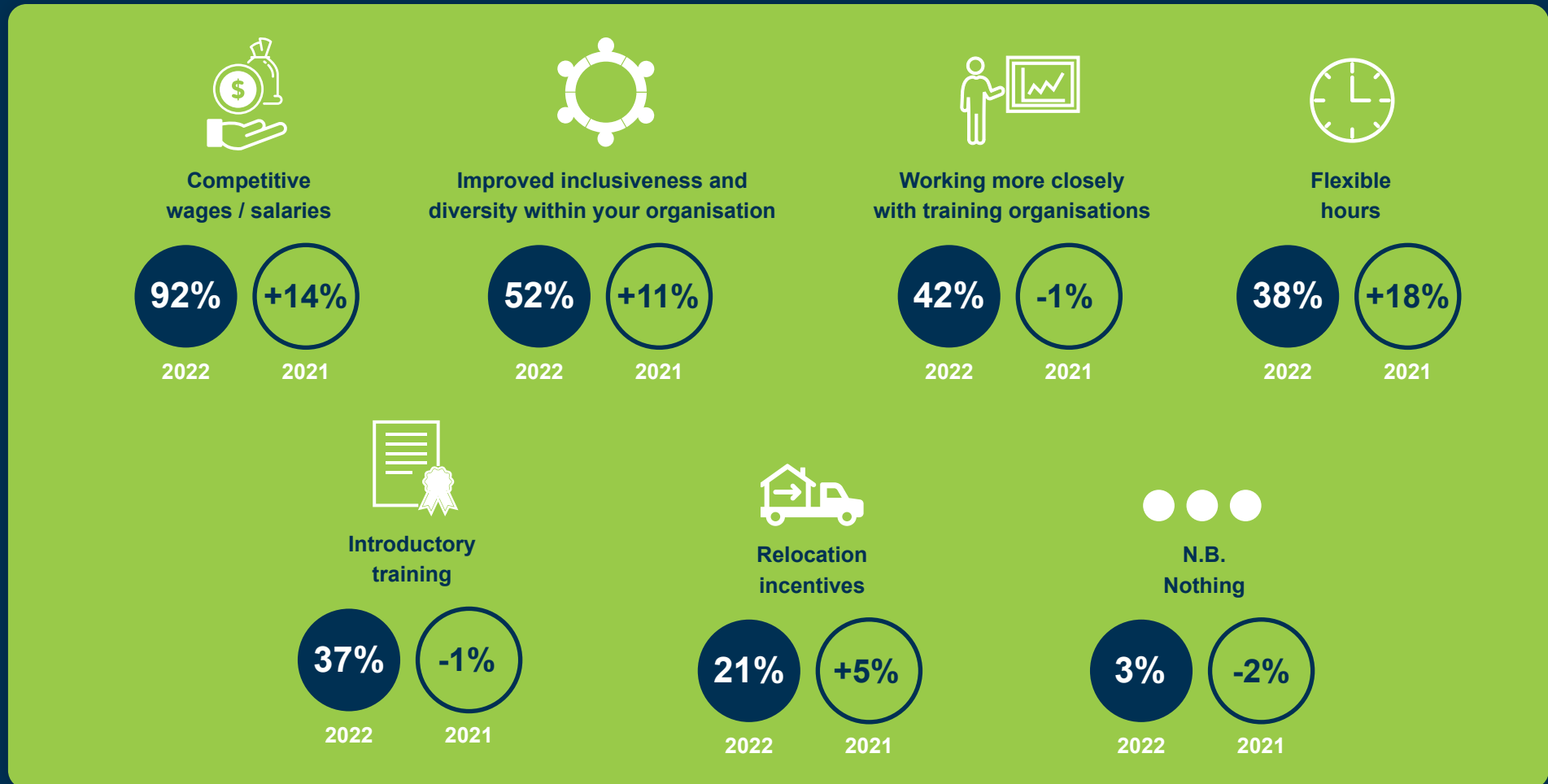


Q19. Over the next year, do you think your requirement for staff will... /  
 Q17. How many staff would you recruit today if people with the right skills were available?  
 Base Amongst Managers: n=152

▲ ▼ Significantly higher / lower than previous

## Those who require more staff in the next year...

As a result of the skill shortage, businesses are putting more measures in place to help with recruitment.  
In particular, there has been a large jump in businesses offering flexible hours to employees.

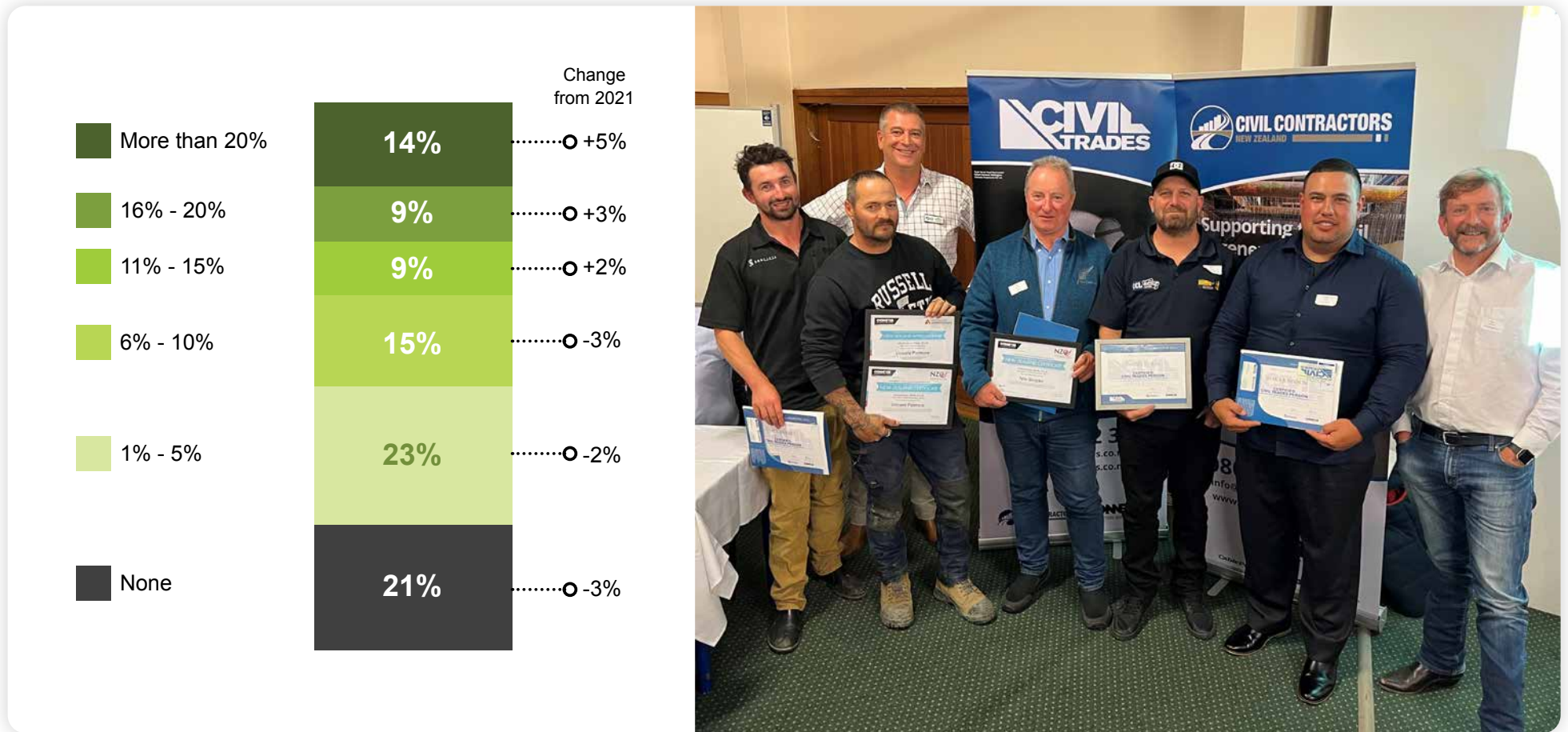


Q20b. What are you putting in place to help with recruitment? Those who require more staff n=95

▲ ▼ Significantly higher / lower than previous

# Training and qualifications of staff

There has been an indicative increase in the proportion of businesses with staff working on a nationally recognised qualification or apprenticeship.



Q7. What proportion of your staff are currently working on a nationally recognised qualification, or an apprenticeship?

Base: 2022 Total (n=226)

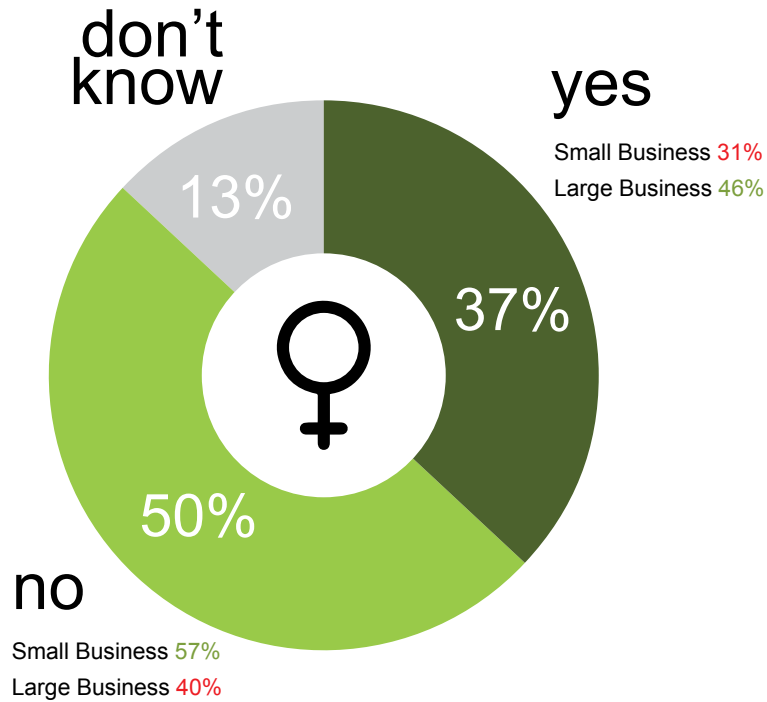
+ / - differences from previous

No significant differences to previous

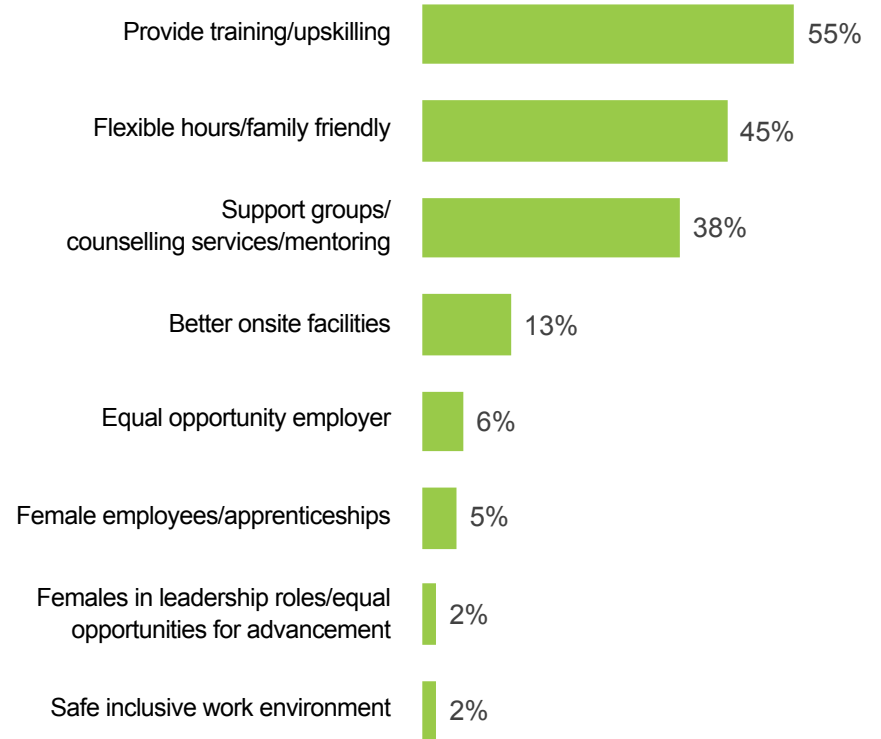
# Specific initiatives to support diverse staff

Around 4 in 10 business have specific initiatives in place to provide targeted support for female, older, disabled or otherwise diverse staff. These initiatives focus on upskilling, flexible hours, and peer-support/mentoring.

## Initiatives to support diverse staff on site



## Current initiatives in place



Q10. Do you have any initiatives in place to support female, older, disabled or otherwise diverse staff in on site roles (not including office staff)? / Q11. And what are the initiatives to support these staff?

Base: 2022 Total (n=226); Those with initiatives to support diverse staff (n=84)

Significantly higher / lower than Total





Benching down a bluff to put in a new track

*Photo by Dan Lane, Taylor's Contracting*

# Technology & Procurement



Diggers lining a massive grape irrigation dam

*Photo by Mike Isley, Simcox Construction*

# Work capacity

Around two-thirds of businesses have been asked to increase their capacity. However, the tight labour market is acting as a major barrier.



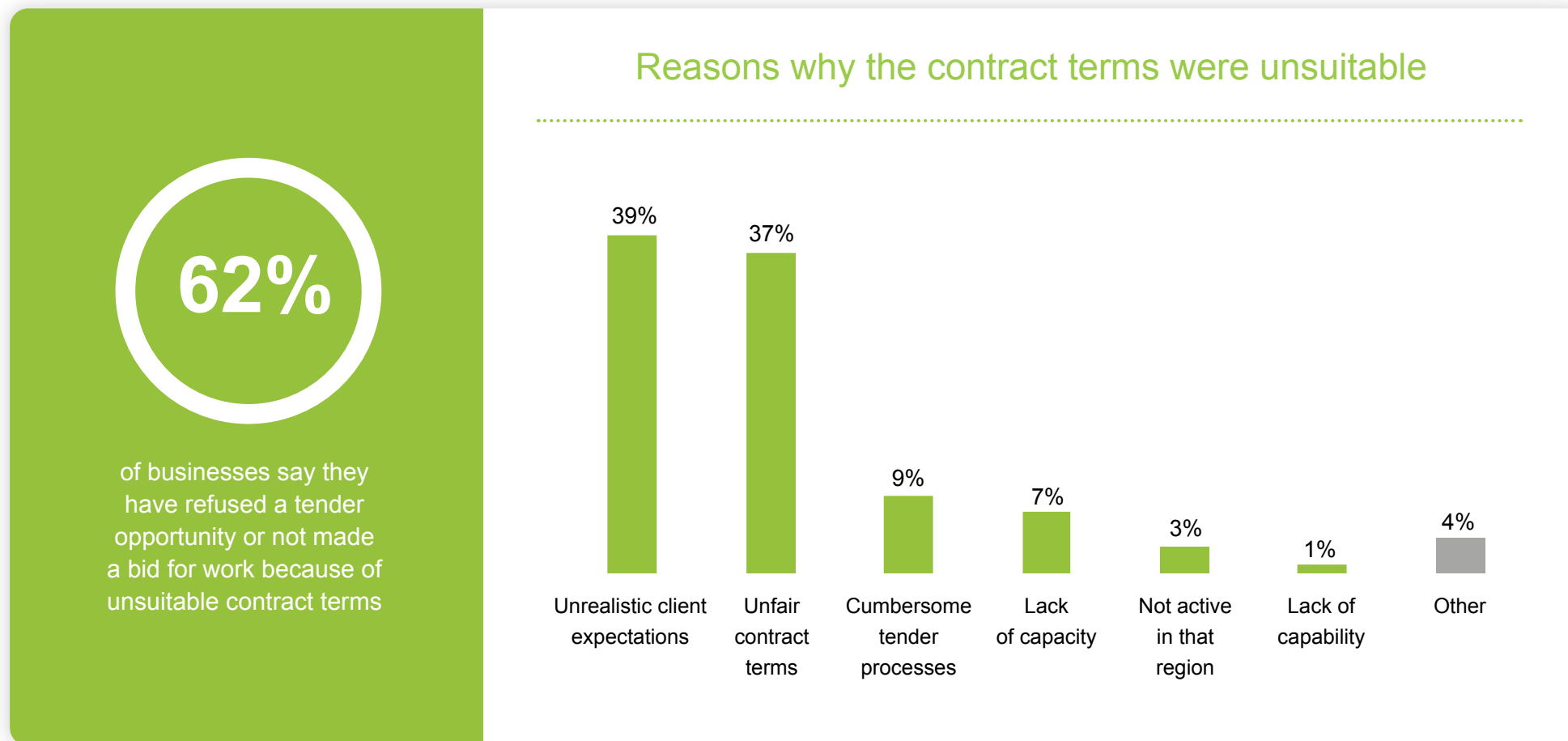
Q10\_2022. Have you been asked by clients to increase your capacity to take on work?

Q10a\_2022. What challenges do you face in increasing your capacity?

Base: Total (n=226)

## Unsuitable contract terms

Around three-in-five businesses have walked away from unsuitable contract terms. Unrealistic client expectations and unfair contract terms are the main reasons contracts are seen as unsuitable.



Q4\_22. Have you refused a tender opportunity or not made a bid for work because of unsuitable contract terms?

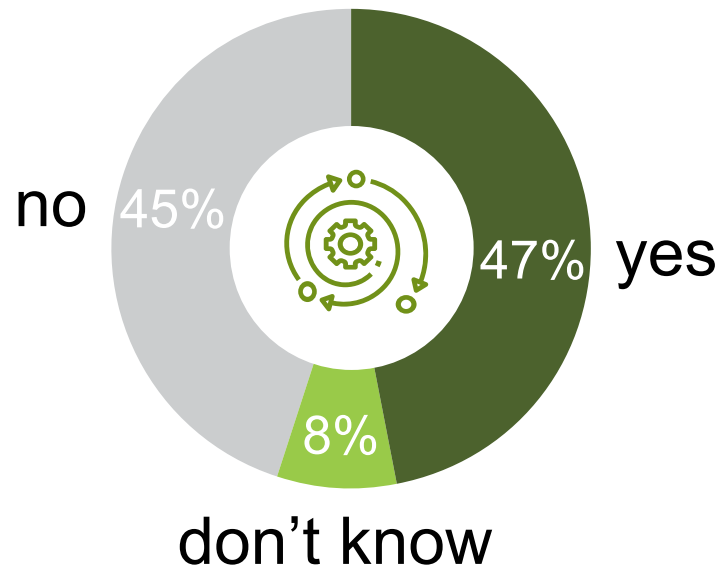
Base: Total (n=226) / Q5\_22 Why did the contract terms make you decide to refuse the tender opportunity or not make a bid for the work?

Those who refused tender or did not make a bid (n=140)

# Sustainability in procurement

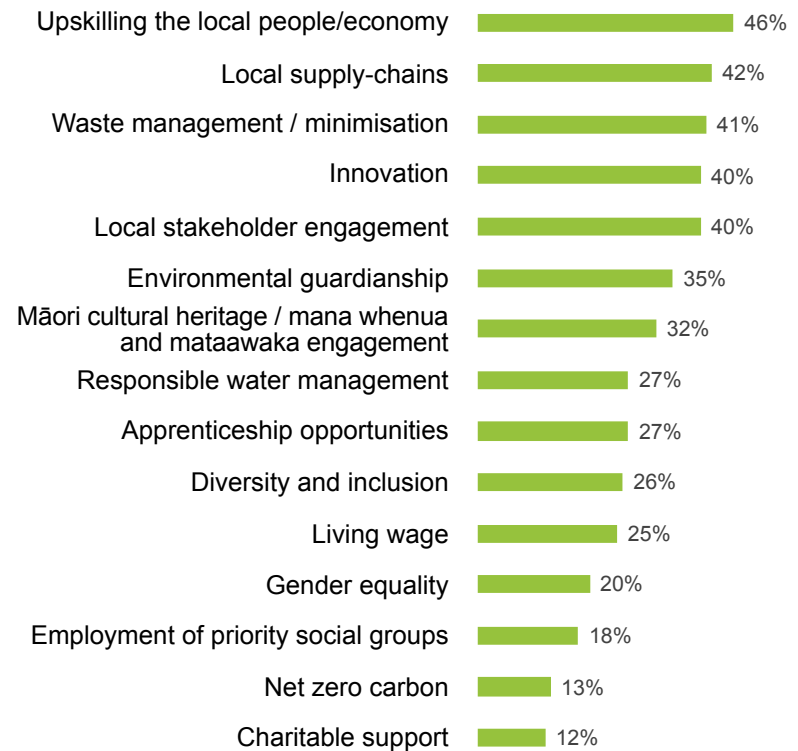
Sustainability practices - whether that's social, economic or environmental - continue to impact the client's procurement decision making. A third of businesses say they have won a contract based on a broader outcome. A contractor's positive impact on local people and the local economy is a top benefit considered in tenders. Good waste management and evidence of innovation are important factors too.

Have clients indicated that contractors' sustainability practices will impact their procurement decision making?



**33%** have won a contract based on a broader outcome

### Other benefits considered in tenders



Q11. Have your clients indicated that your business's sustainability (economic, social, environmental) practices will impact their procurement decision making? / Q11a. Have you won a contract based on broader outcomes? / Q11b. What wider benefits are considered in your project tenders?

Base: 2022 Total (n=226)

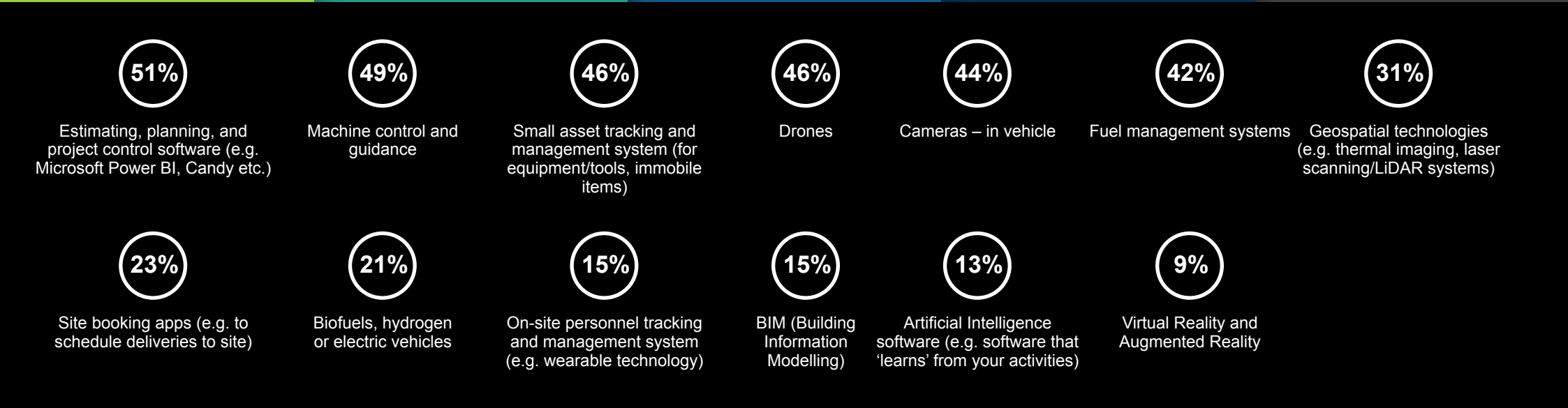
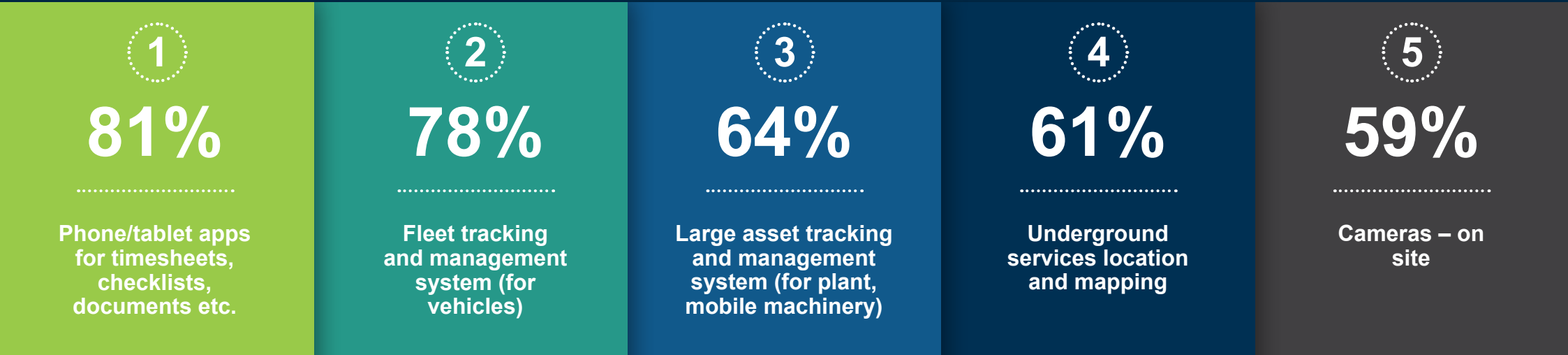
Some metrics may add up to 99% or 101% due to rounding adjustments

+ / - differences from previous

No significant differences to previous

# Technology being used within the business...

Technology usage has remained relatively consistent with last year. Underground services location and mapping was added to the list of technologies, and this is currently the 4th most used within the industry.



Q27. What types of on-site technology solutions do you currently use in your business?

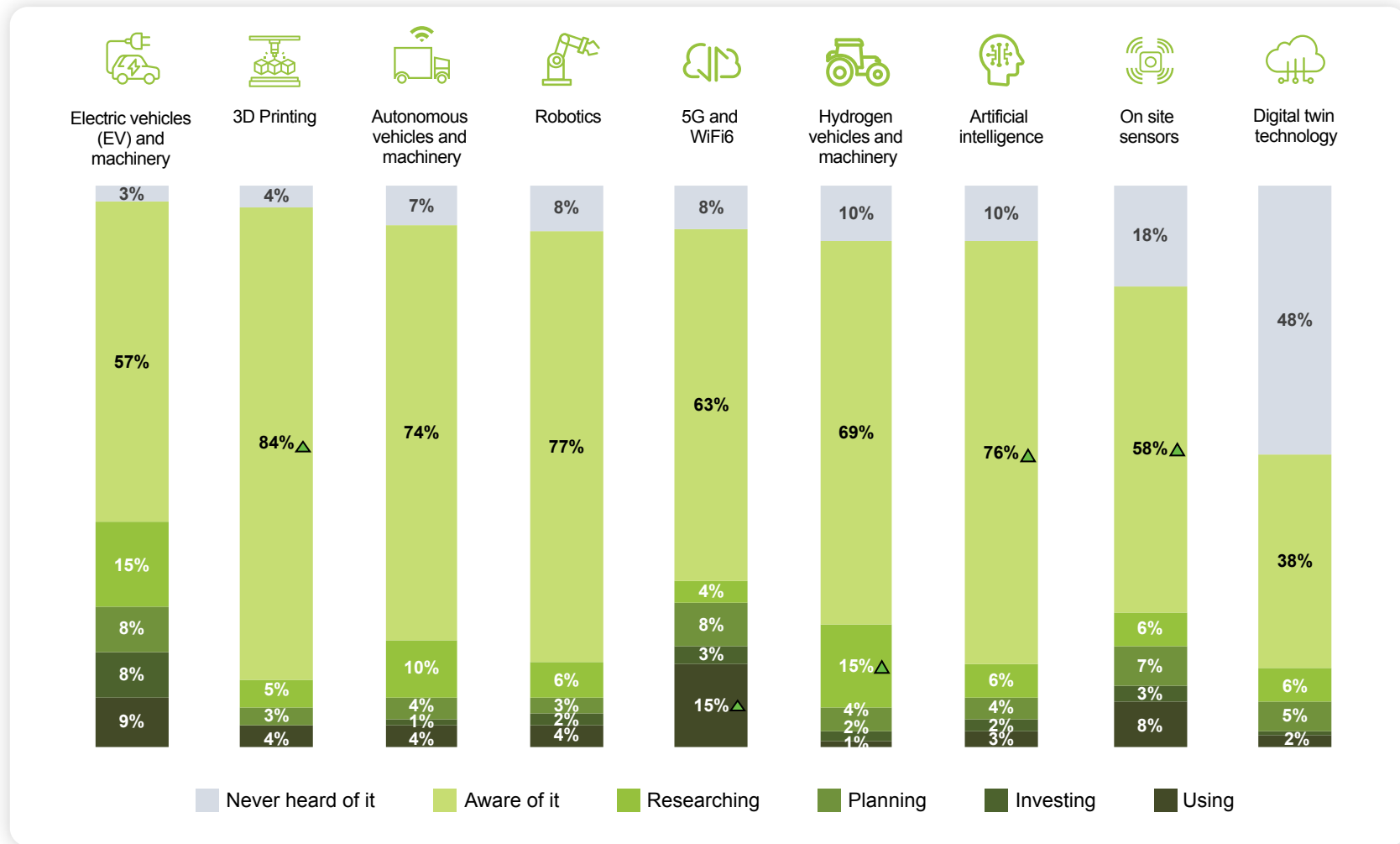
Base: 2022 Total (n=226)

+ / - differences from previous

No significant differences to previous

# Knowledge of emerging technologies...

From onsite sensors to 3D printing, awareness in a range of emerging technologies is increasing. Research into hydrogen vehicles and machinery has increased significantly, as has the use of 5G and WiFi6 technology.

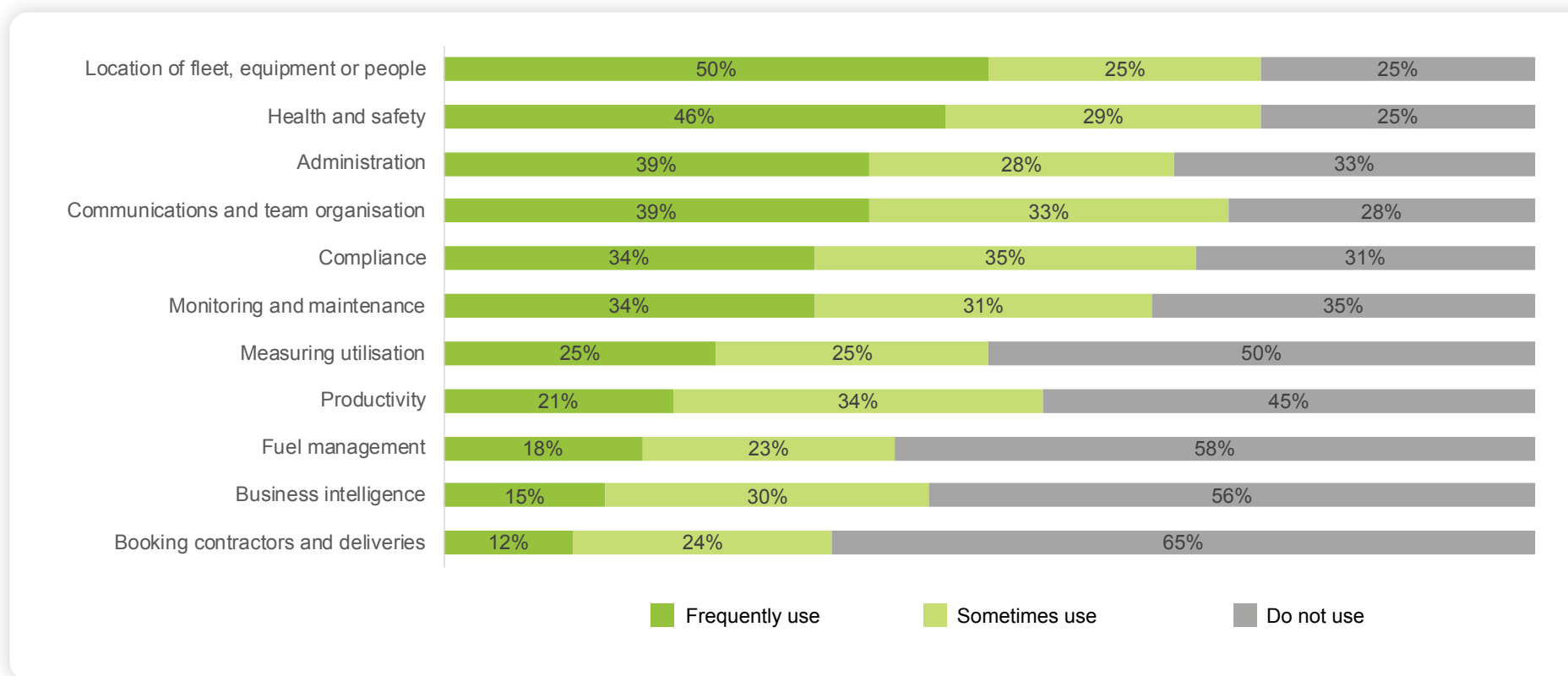


Q29. How knowledgeable is your business in each of these emerging technologies?

Base: 2022 Total (n=226)

## Purpose of specialised construction technology

Specialised technology usage remains consistent with 2021, however technologies are used less for productivity, fuel management and business intelligence – all areas in which technology could be exploited more.



Q28. Thinking about each of the following purposes, do you use any specialised construction technology or software on the job site?

Base: 2022 Total (n=226)



# Knowledge of emerging technologies...

From onsite sensors to 3D printing, awareness in a range of emerging technologies is increasing. Research into hydrogen vehicles and machinery has increased significantly, as has the use of 5G and WiFi6 technology.



## SAID THEY HAVE NEEDED TO USE CERTAIN TECH TO BID FOR WORK

“Personnel login apps for Health and Safety on sites.”

“Project management and resource management”



## HIGHLIGHTED THE USE OF ON-SITE TECH TO WIN WORK

|  |     |
|--|-----|
| Health and Safety/Health and Safety App                                  | 22% |
| Machine Control/GPS Machine Control                                      | 18% |
| Vehicle tracking/Fleet tracking  | 16% |
| GPS tracking   | 6%  |
| Asset/fleet management   | 5%  |
| Drones/drone surveying   | 4%  |
| Onsite/in field capture of data/live/real-time data                      | 4%  |
| Fast data sharing/with others/with client on request                     | 3%  |
| Lasers   | 3%  |
| EROAD  | 2%  |
| Environmental app/tracking of carbon footprint/monitoring fuel emissions | 2%  |
| Improving efficiency   | 2%  |
| Monitoring/tracking staff  | 2%  |
| GPS (unspecified)  | 1%  |
| Machine tracking/tracking of machine hours                               | 1%  |
| Incident reports   | 1%  |

Q30. Have any of your customers mandated that you must use a certain technology in order to bid for work? / Q31. What technology did they require you to use? Base: 2022 Total (n=226) / Q32. Have you highlighted your use of on-site technology (e.g. fleet tracking, asset tracking, health and safety apps) to win projects or work? Base: 2022 Total (n=226) / Q33. What aspect of using technology did you promote? Base: Those who highlighted use of on-site tech (n=114)

# Civil Contractors New Zealand

Civil Contractors New Zealand represents the interests and aspirations of more than 700 member organisations – including large, medium-sized and small businesses in civil engineering, construction and general contracting. It also has associate members who provide valuable products, support and services to contractor members.

21 Fitzherbert Terrace | Thorndon, Wellington | 0800 692 376

[www.civilcontractors.co.nz](http://www.civilcontractors.co.nz)



# Teletrac Navman

Teletrac Navman is a leading software-as-a-service (SaaS) provider leveraging location-based technology and services for managing mobile assets. With specialised solutions that deliver greater visibility into real-time insights and analytics, Teletrac Navman helps companies make better business decisions that enhance productivity and profitability. Its fleet and asset management technology uncovers information that would otherwise go unseen, helping customers reduce risk and confidently move their business forward with certainty. It tracks and manages more than 550,000 vehicles. The company is headquartered in Garden Grove, CA, with additional offices in the United States, United Kingdom, Australia, New Zealand and Mexico.

67 Apollo Drive | Rosedale, Auckland 0632 | 0800 447 735

[www.teletracnavman.co.nz](http://www.teletracnavman.co.nz)





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