

Construction Industry Survey

2021

A partnership between Teletrac Navman
and Civil Contractors New Zealand



Foreword

This is the fifth Construction Industry Survey, conducted to build a picture of New Zealand's civil construction industry and the experience of those within the industry.

The survey is a research partnership between Civil Contractors New Zealand (CCNZ) and Teletrac Navman which sheds light on the state of the civil construction industry and its future outlook.

The results also serve to stimulate discussion on industry views among private and public organisations and local and central government.



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Specifically, the 2021 survey aimed to explore

The industry response to sector issues and its outlook for the future

The conditions of the construction industry's workforce and potential initiatives

The future of technology and how this can impact on procurement

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Industry Snapshot

Civil contractors are vital in the development of New Zealand.

The people within this sector build and maintain our nation's civil infrastructure, which includes roading and transport, energy, water, communications and public infrastructure. They also provide services to residential and commercial construction sectors.

A modern economy must have quality infrastructure to compete globally and to deliver high standards and quality of living.

Infrastructure activity is forecast to **increase to NZ\$10.1b in 2025.**



Transport, water and subdivision projects dominate new infrastructure activity in 2020, contributing to **85%** of projects and **88%** of total value.*

Three Waters assets are projected to require between NZ\$120b and \$180b investment over the next 30 years.**

NZ\$43.2 billion* total construction value; increased by 7.5% in 2019.

Project initiators*



* Ministry of Business, Innovation and Employment. (December 2020). National Construction Pipeline Report 2020, p13. <https://www.mbie.govt.nz/assets/national-construction-pipeline-report-2020.pdf>

** Department of Internal Affairs Three Waters Reform Programme. Water Industry Commission For Scotland Report Phase 2 (June 2021). <https://www.dia.govt.nz/Three-Waters-Reform-Programme>

Demographics and Methodology

Survey respondents

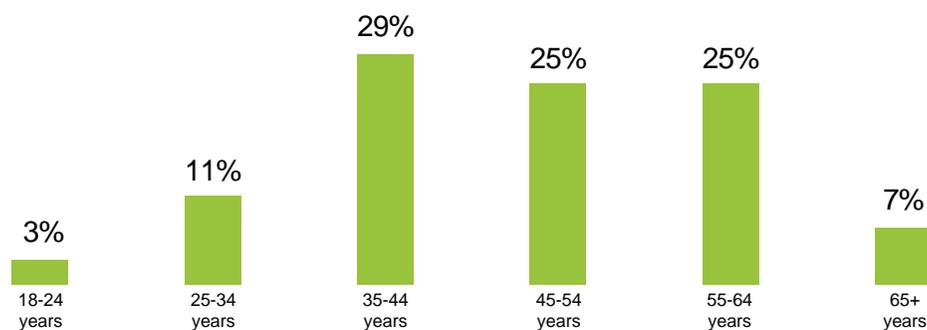
Those who responded to the survey are largely senior managers and business owners from across the civil construction industry, covering a wide geographic spread and a wide range of company sizes, from small to medium enterprises to large corporates.



161 adults from the civil construction industry took the online survey from 12 May – 2 June 2021

Base: 2021 Total (n=161)

Age



Gender



83%
Male



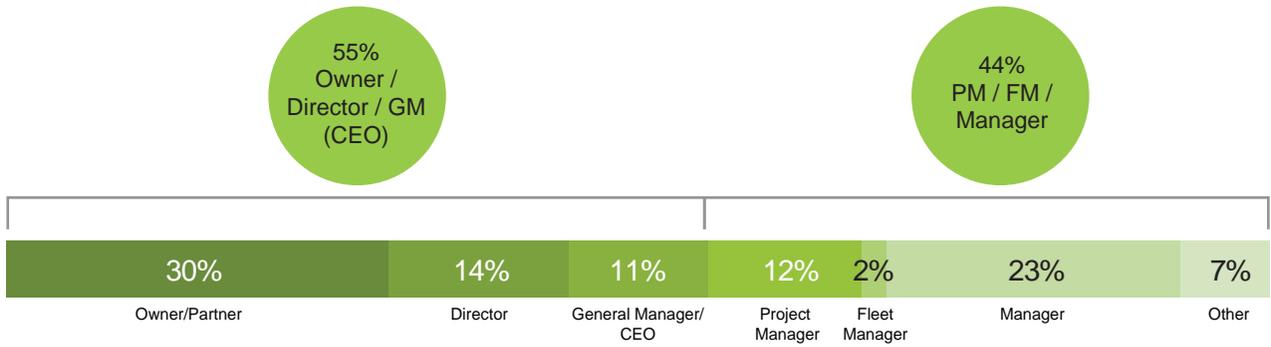
17%
Female

1%
Prefer not
to say

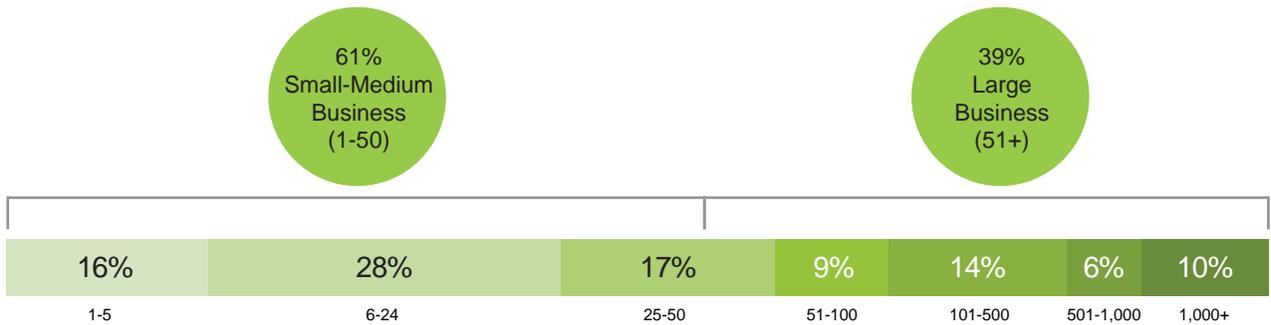
The survey was produced by Colmar Brunton. Margin of error for the total sample is + or - 7.7 percent at a 95 percent confidence level.

Demographics and Methodology

Position/Role



Number of people in business



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

Key Findings

The civil construction industry is confident in its ability to deliver essential infrastructure for New Zealand but faces significant challenges on the road ahead.

Even though Covid-19 continues to impact with fluctuating costs and delays in shipping of building supplies and construction materials, the industry is optimistic about future growth. However, significant skills shortage has the potential to undermine this optimism. Addressing the skills and people shortage is critical, as is a clear forward work programme from central and local government.

As New Zealand normalises post-pandemic, issues such as fluctuating costs, sustainability and environmental impact have returned to the spotlight, and will influence the client procurement decisions that set how the country's infrastructure will be built in years to come.

Confidence in the civil construction industry and predicted turnover growth has increased from 2020

Key Industry Issues	Industry Outlook / Confidence	Workforce	Technology & Procurement
<p>74% want a clearer pipeline of central and local government work (83% in 2020)</p>	<p>50% are confident in the outlook for the construction industry (29% in 2020)</p>	<p>80% chose skills shortage as the main industry challenge (25% in 2020)</p>	<p>Clients indicated that 32% needed to use certain technology to bid for work (e.g. GPS & BIM)</p>
<p>45% think the reform of vocational education will have a positive impact on the industry (46% in 2020)</p>	<p>55% are predicting turnover growth in the next year (23% in 2020)</p>	<p>87% would hire today if the right skills were available (69% in 2020)</p>	<p>48% indicated that sustainability practices will impact their clients' procurement decision making (37% in 2020)</p>
	<p>45% feel fluctuating costs are a challenge for future growth (15% in 2020)</p>	<p>71% have the right resources to train new staff</p>	

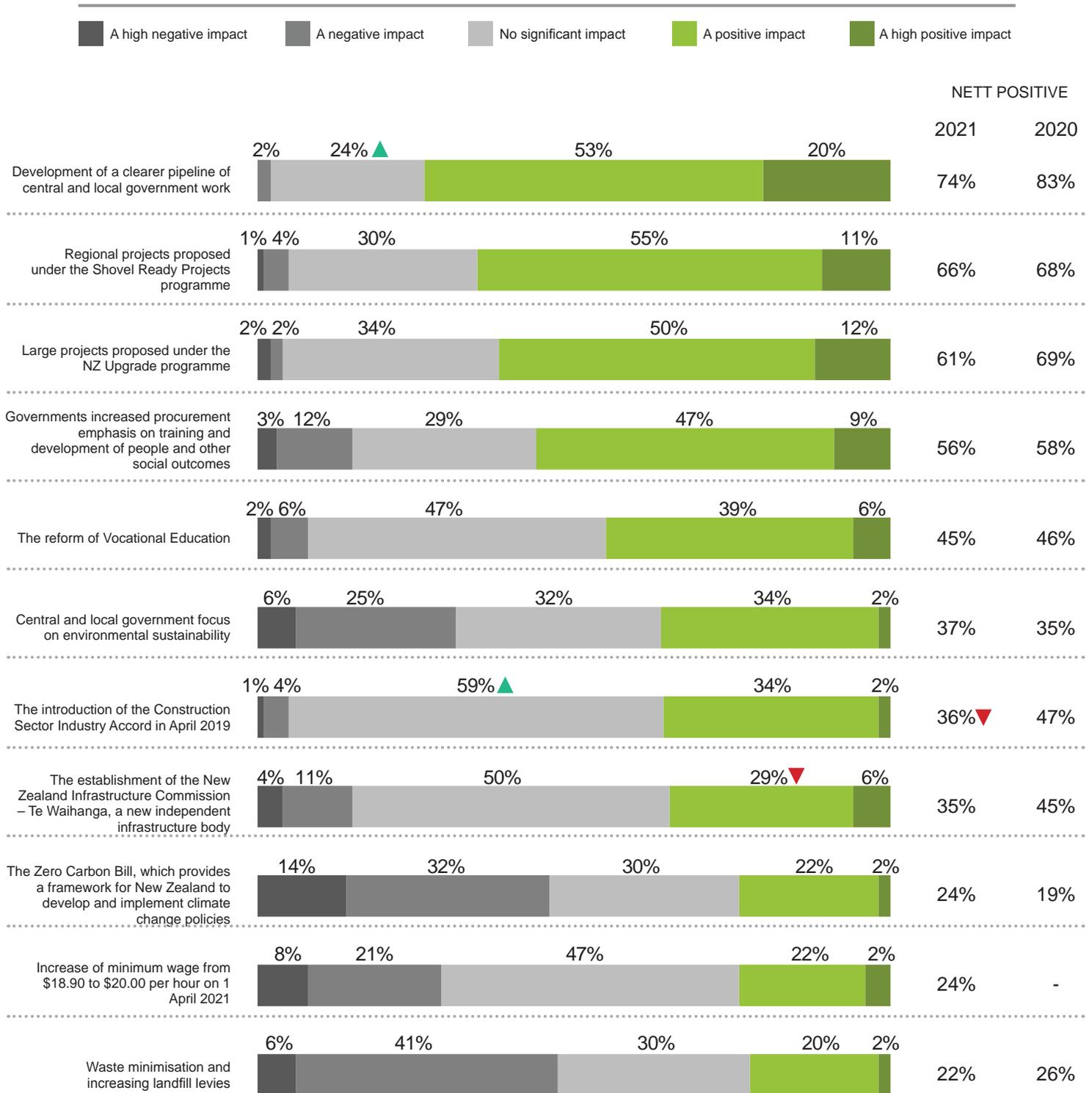


Photo: Oscar Tatom, Fulton Hogan

Industry Issues

Development of a clearer pipeline for central and local government work continues to have a positive impact, although markedly more businesses indicate that will not impact their businesses significantly.

Expected impact in the next three years



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

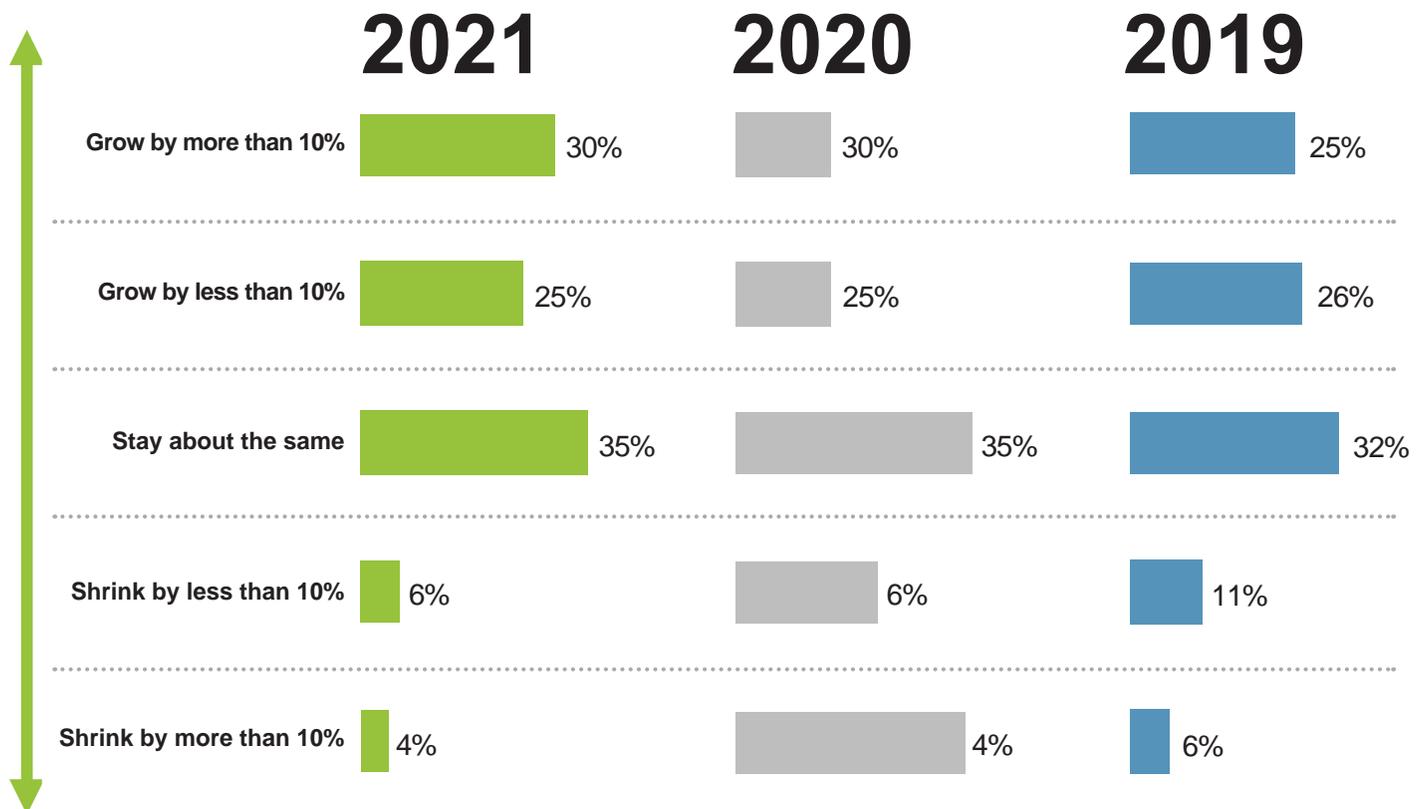
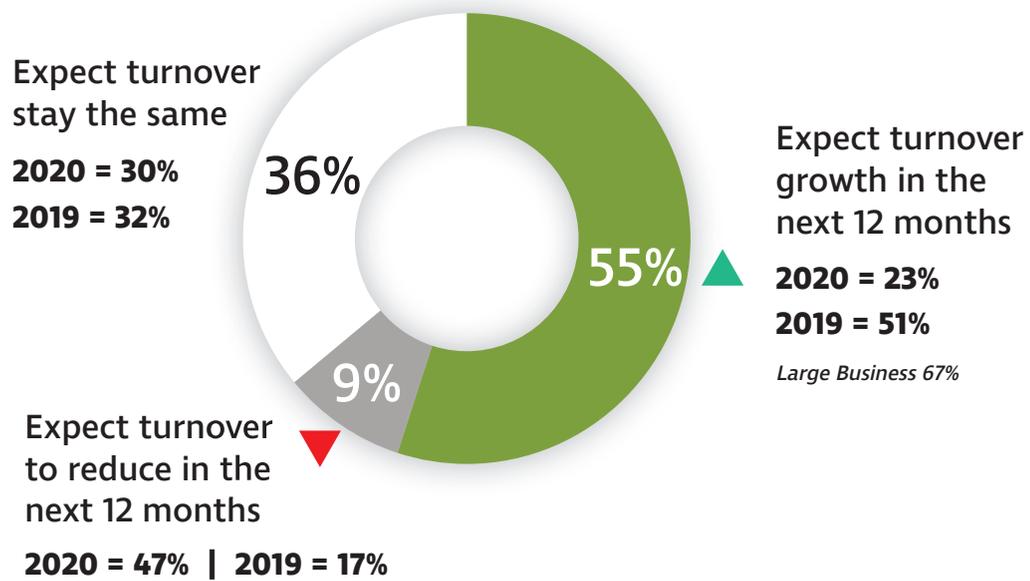
Base: 2021 Total (n=161), 2020 Total (n=188)

▲ ▼ Significantly higher / lower than previous

Future Growth

The industry has well and truly rebounded from pandemic impacts. More civil construction companies were projecting positive growth for their businesses than in previous years, with fewer projecting reduced turnover.

Expected turnover change 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: 2021 Total (n=161), 2020 Total (n=188)

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

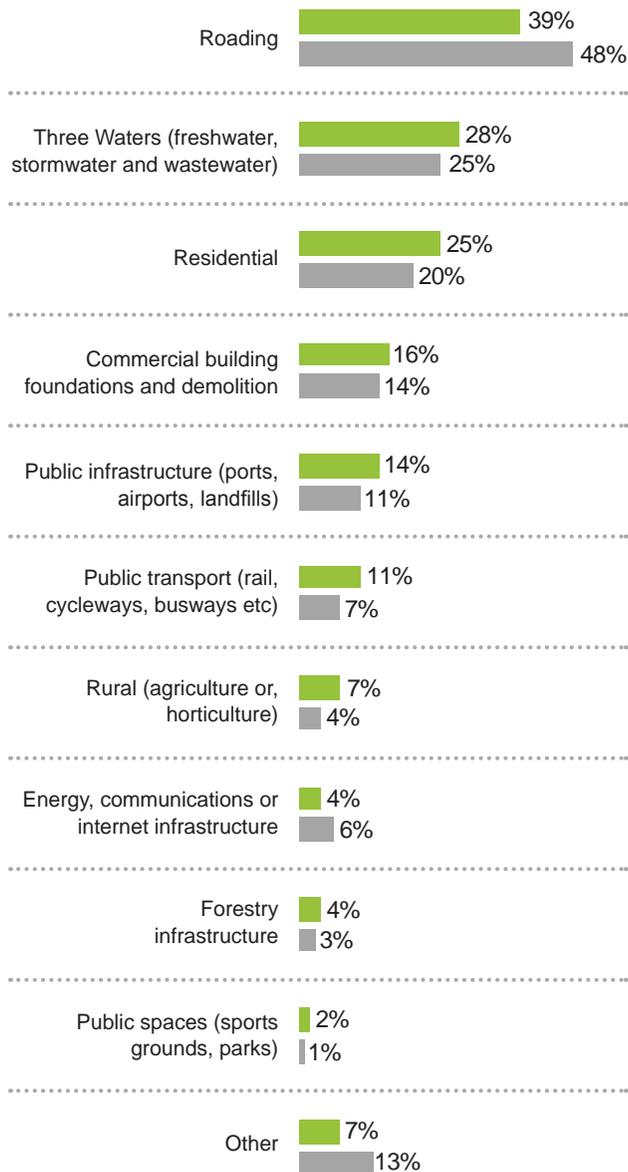
Types of Work

Roading remains the most worked on project type, although businesses predict that the Three Waters convention will be a focus for the next 12 months.

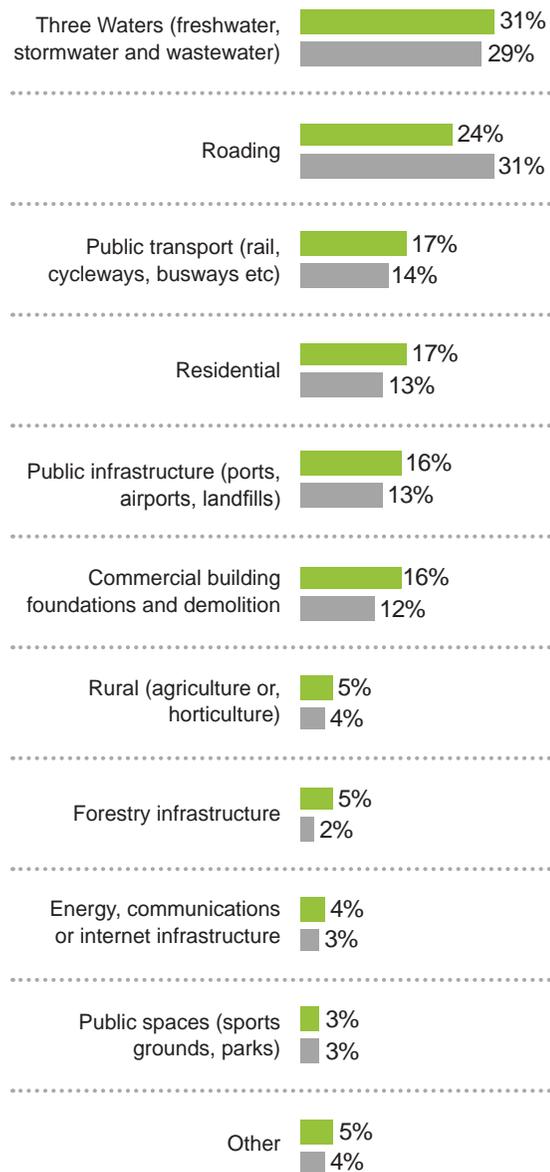
Types of projects

■ 2021 ■ 2020

Projects currently getting the most work from...



Type of projects planned to increase capability in the next 12 months...



Q3. What area/ type of project within civil construction does your business currently get most work from?

Q4. What area/ type of project within civil construction do you plan to increase your capability in over the next 12 months?

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

Business Confidence

There is a significant increase in confidence in the construction industry this year, with half of businesses feeling confident about the outlook for the civil construction industry.

Civil construction businesses are confident in...



61%

+2

The ability of your business to withstand change and overcome challenges



50%

+21 ▲

Civil construction industry outlook



52%

+6

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



35%

+9

The future pipeline of civil construction work



25%

+5

The Government's commitment to infrastructure



18%

-7

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: 2021 Total (n=2020 Total (n=188)

+ / - differences from previous

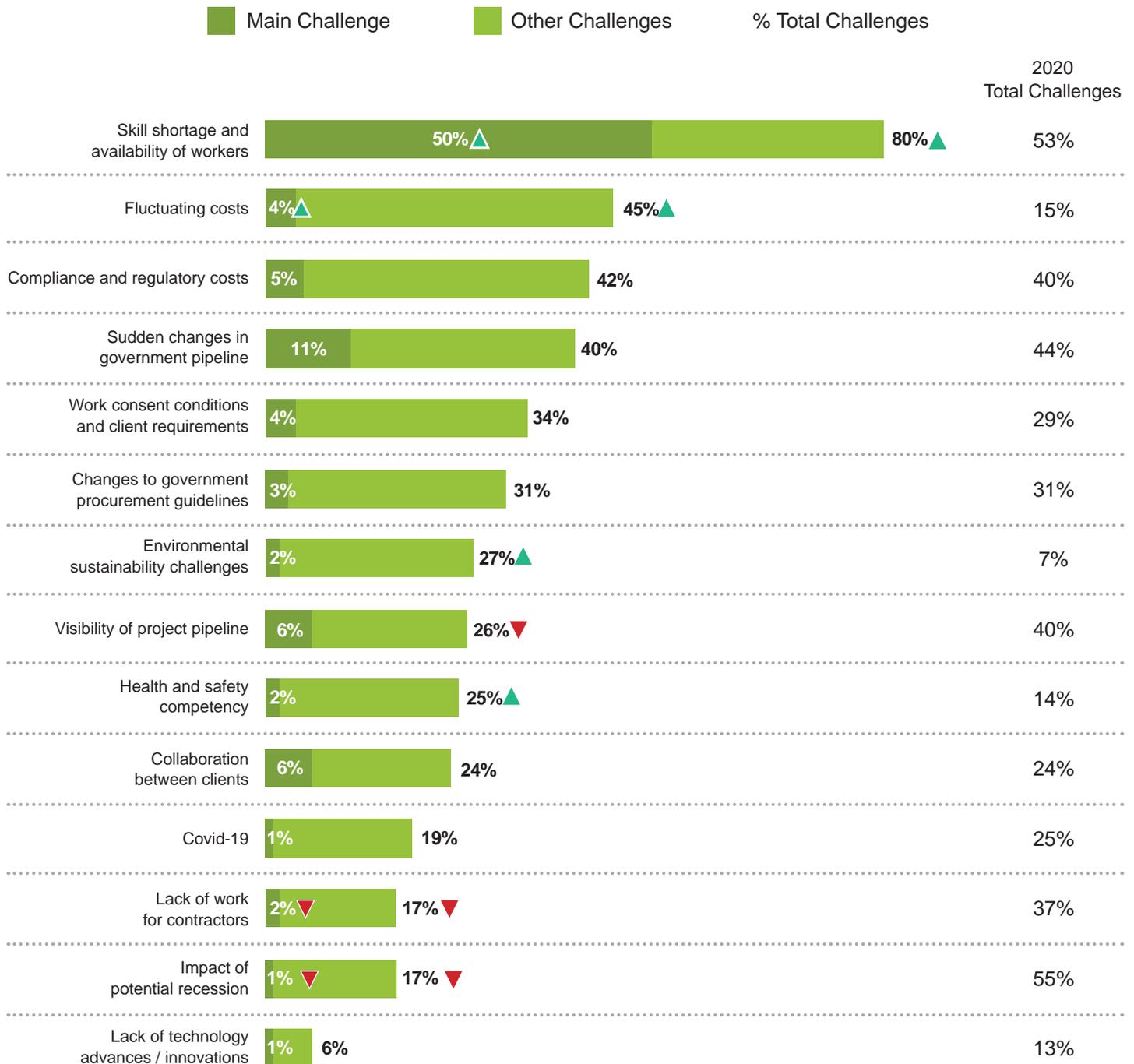
Significantly higher / lower than total

▲ ▼ Significantly higher / lower than previous

Key Challenges

The impact of the potential recession due to Covid-19 is no longer a major challenge. However, Covid-19 continues to impact the industry via border closures and immigration issues, which are leading to skill shortages and fluctuating costs.

Construction industry challenges to future growth



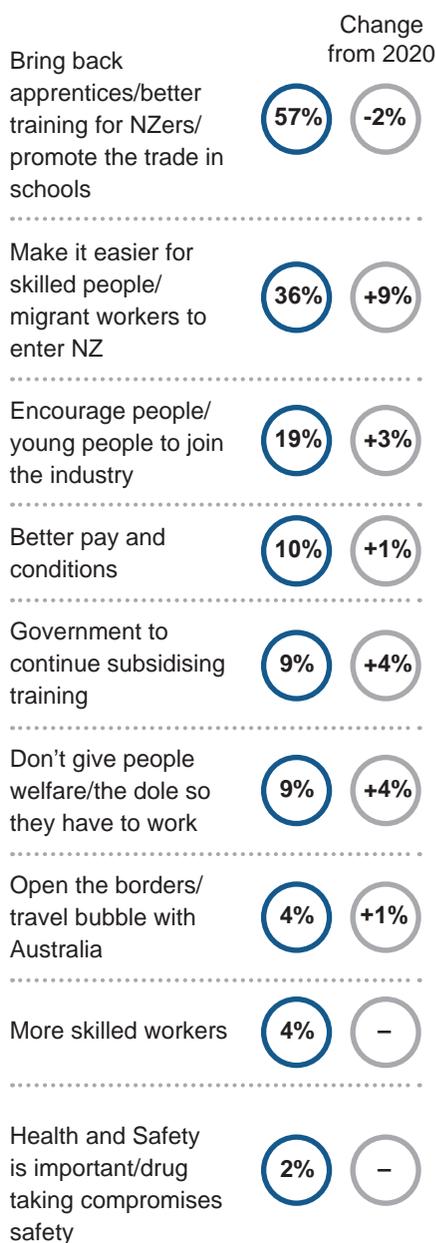
Q7a. What challenges do you think the construction industry is facing for future growth?

Q7b. And what is the main challenge in the construction industry?

Base: 2021 Total (n=161), 2020 Total (n=188) ▲▼ Significantly higher / lower than previous

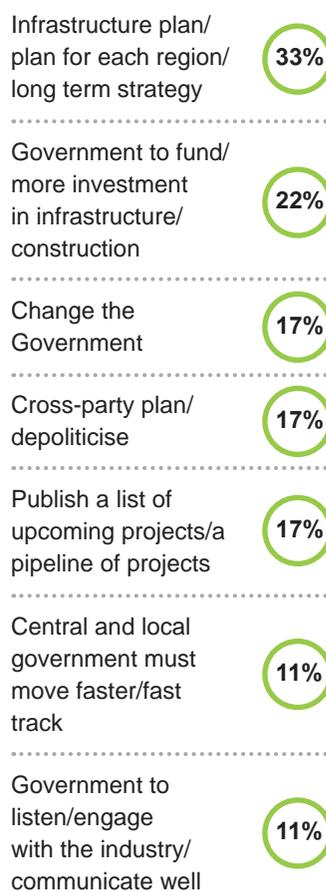
Suggested Solutions to Key Challenges

Skill shortage and availability of workers (e.g. recruitment of staff)



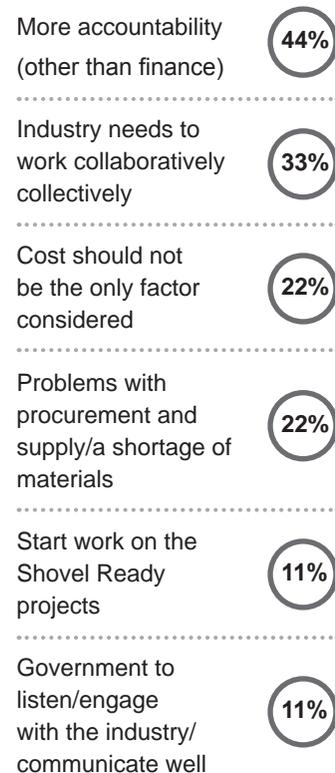
“Get the apprentice scheme working and the Government to subsidise apprentices across different industries.”

Sudden changes in Government pipeline



“Commit more money now and the lock in projects further in advance.”

Collaboration between clients (e.g. engineers, contractors)



“Review procurement models to allow more realistic pricing and stop the race to the bottom. This will create room for negotiated change and excellence.”

Q8. What do you think could be done to overcome the issue of?

Base: 2021 Total (n=161) + / - differences from previous

Suggested Solutions to Other Industry Challenges

	<p>Skill shortage and availability of workers</p>	<p>Unfortunately, we will need to recruit from overseas. The NZ market is extremely tight and yes we have apprenticeship programmes and training, but we need people with the skills, knowledge and capability now.”</p>	<p>“Get the apprentice scheme working and the Government to subsidise apprentices across different industries.”</p>	<p>“Attracting more skilled and reliable working into the industry.”</p>
	<p>Fluctuating costs</p>	<p>“Covid-19 has the biggest impact on this. Procurement is becoming more and more difficult with far longer lead times.”</p>	<p>“More industry regulation, a lot of small players that add up to a lot of unnecessary overheads.”</p>	<p>“Not a lot unless someone genuine is going to create some honest competition in shipping.”</p>
	<p>Compliance and regulatory costs</p>	<p>“Collaboration between industries and regulators.”</p>	<p>“More lobbying at government level. H and S and traffic management costs are increasing everyday.”</p>	<p>“Encourage regional councils to work with contractors and help find solutions, rather than act as compliance policeman.”</p>
	<p>Sudden changes in Government pipeline</p>	<p>“Commit more money now and the lock in projects further in advance.”</p>	<p>“Get the government onboard to getting a continuous pipeline of work being dishd out.”</p>	<p>“Long term strategic planning and having Labour and National agree to the long term plan.”</p>
	<p>Work consent conditions and client requirements</p>	<p>“I think there should be a national set of rules that ALL councils and regional councils HAVE to follow so the clarity is there at all times.”</p>	<p>“Quicker turn around on consents.”</p>	<p>“Our gripe is to get consent to work on the roads is becoming a more lengthy, time consuming process which is very hard to on charge.”</p>
	<p>Changes to government procurement guidelines</p>	<p>“Having a simplified standard over local councils around geotech investigation requirements. Each council seems to make it up as they go along.”</p>	<p>“Spend more \$ in the regions, not just Auckland.”</p>	<p>“Have project planned be protected for continuity.”</p>

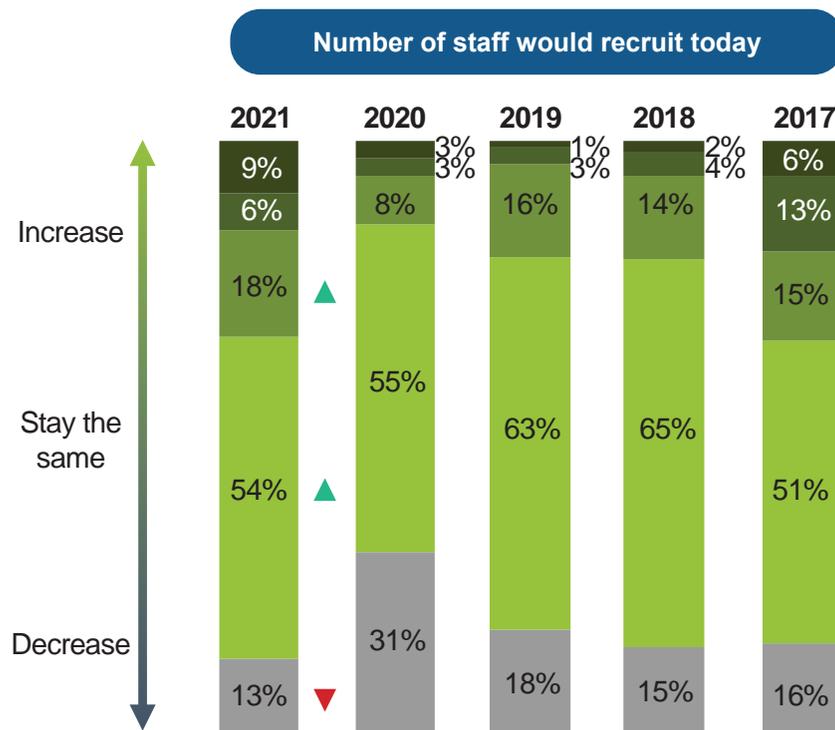
Q8. What do you think could be done to overcome the issue of ?

Base: 2021 Total (n=161)

Workforce

A major skill shortage is impacting the workforce, with two-thirds of businesses saying staffing will be prioritised this year. Most companies require one to 10 employees with the right skill level.

Staffing / workforce requirements



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: Among managers

▲ ▼ Significantly higher / lower than previous

Recruitment

Nearly all businesses that are recruiting are putting measures in place, mainly through a competitive pay package. After machine operators, experienced fieldworkers and supervisors are highly demanded by most companies.

Recruitment incentives

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



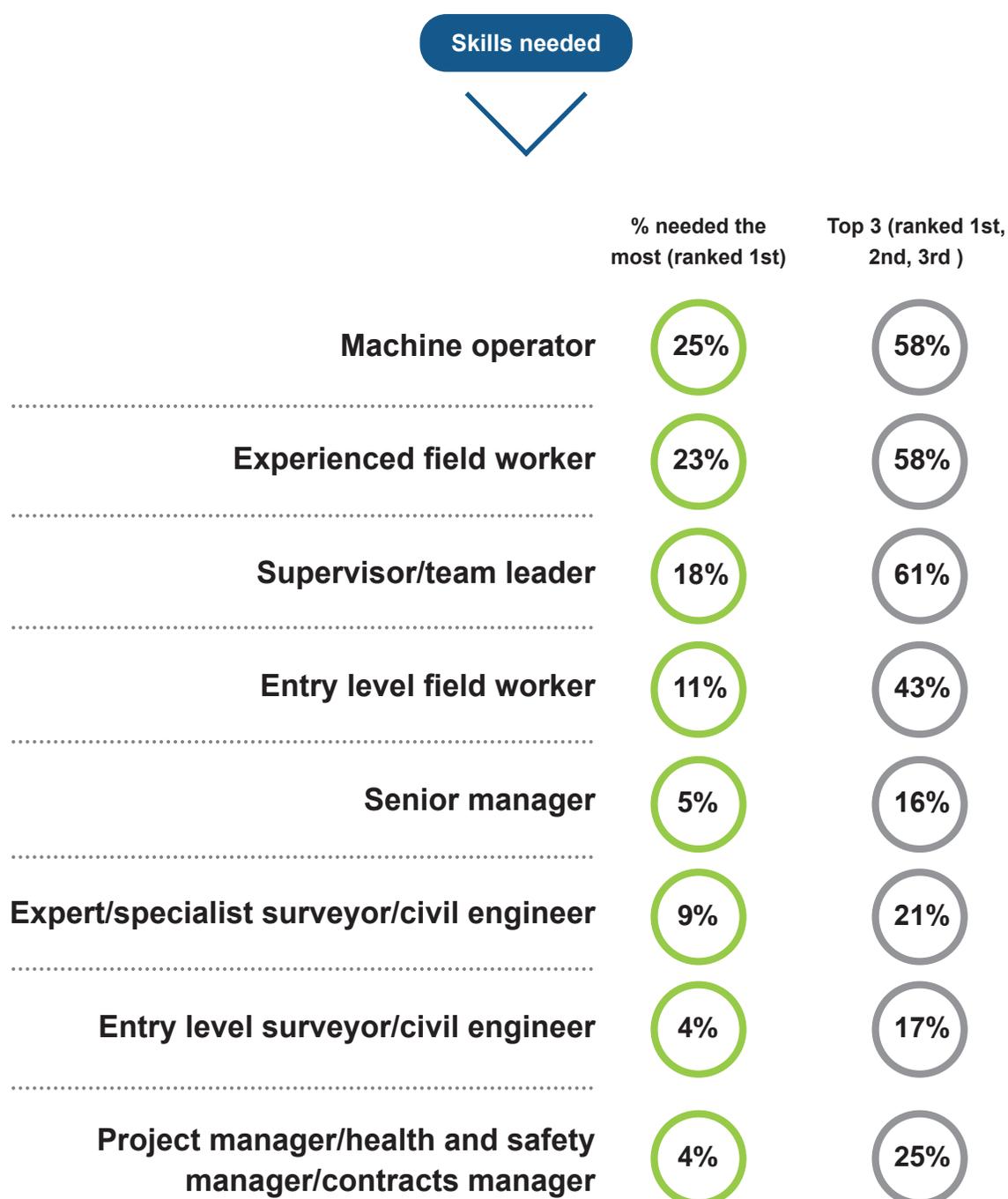
Measures being put in place to help with recruitment



Q19. What skillsets do you most need in your business? / Q20b. What are you putting in place to help with recruitment? Base: Those who require more staff in the next year (n=74)

Recruitment

Who would recruit whom In 2021



Q19. What skillsets do you most need in your business? / Q20b. What are you putting in place to help with recruitment? Base: Those who require more staff in the next year (n=74)

Training

The majority feel they have the right resources to train staff and use external trainers if necessary. A quarter of the industry have no staff members that are currently working toward a nationally recognised qualification or apprenticeship.

Training and qualifications of staff

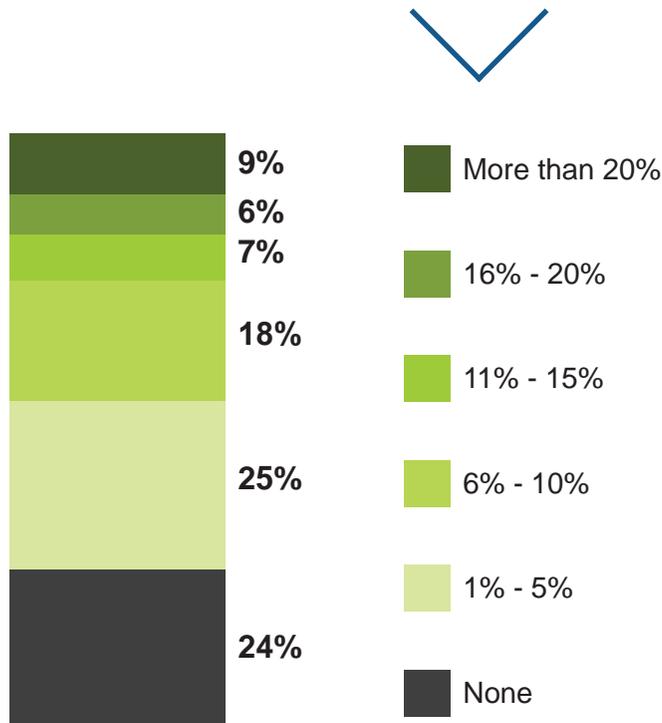


HAVE THE RIGHT RESOURCES TO TRAIN NEW EMPLOYEES



USE EXTERNAL TRAINERS TO HELP STAFF DEVELOPMENT

% of staff nationally recognised qualification / apprenticeship



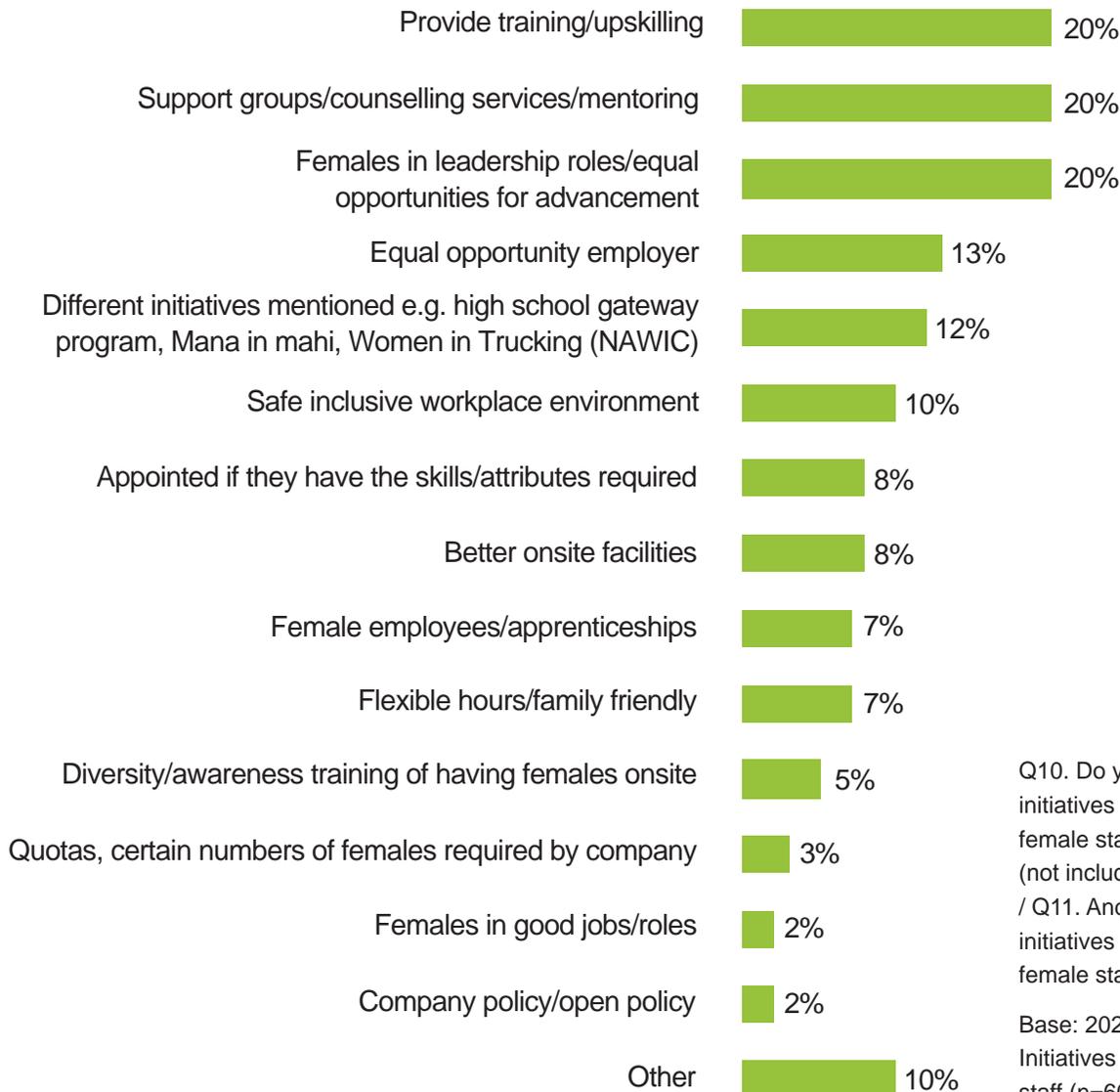
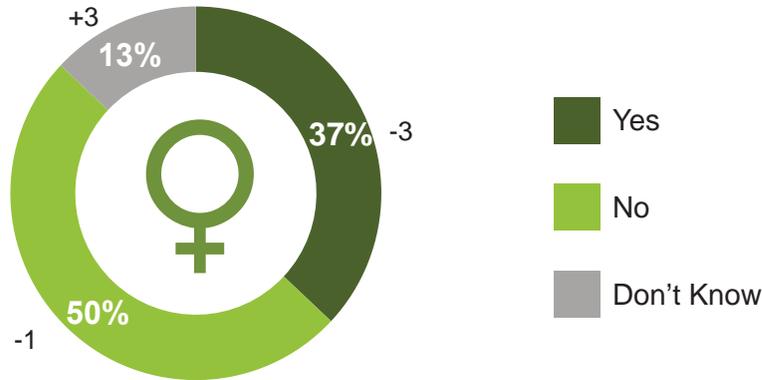
Q6. Do you currently have the right resources and staff in your business to train the people you would like to employ? / Q21. Does your business currently use an external training provider to help staff develop the skills they need? / Q7. What proportion of your staff are currently working on a nationally recognised qualification, or an apprenticeship?

Base: 2021 Total (n=161)

Women in the workforce

Half do not have initiatives in place to support female staff in on-site roles. Businesses who have initiatives in place indicate they are upskilling female employees and supporting growth for leadership roles.

Female Staff Initiatives



Q10. Do you have any initiatives in place to support female staff in on site roles (not including office staff)? / Q11. And what are these initiatives in supporting female staff?

Base: 2021 Total (n=161); Initiatives to support female staff (n=60)

Harnessing Tech in Construction

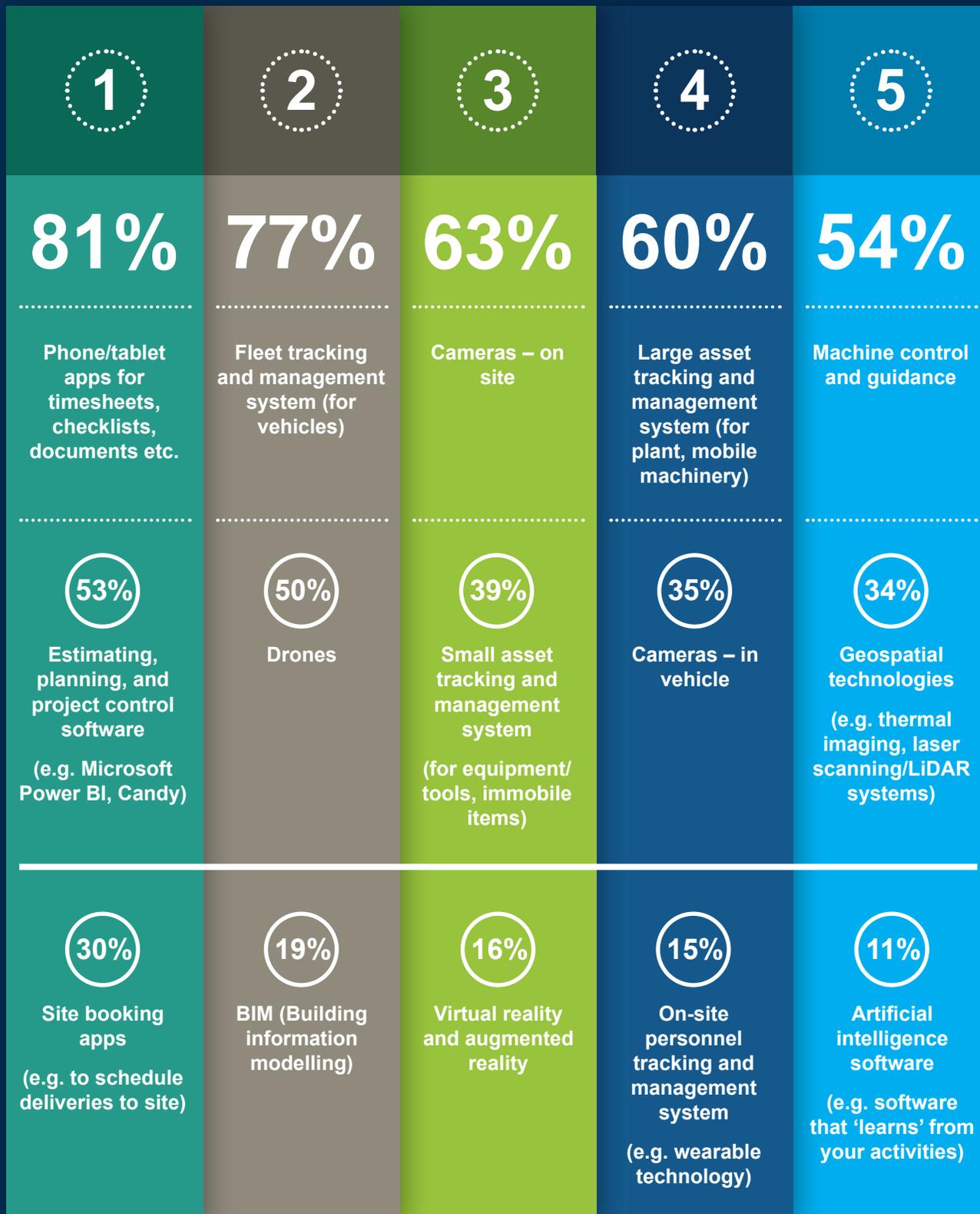
As New Zealand eases out of Covid-19 restrictions, the construction industry has a renewed focus on both the issues and challenges which may impact the potential growth they expect from the pipeline of work they have before them and on benefits they may achieve using emerging technologies.

However, NZ construction companies are slow to adopt new tech with many still at planning and research stages. There is opportunity here to educate decision makers on new technology on how it can help not only with bottom-lines in the long run but also mitigate the current challenges like skills and supplies shortage.

At the same time, many businesses are paying closer attention to their sustainability practices, as they are aware that these will influence clients' decisions on procurement.

Photo: Seb Jones, Hunter Civil

Many businesses are using varying levels of technology. Over 80 percent use phones and almost as many use fleet tracking. Fifty percent are using drones on-site, with a few venturing into VR and AI.

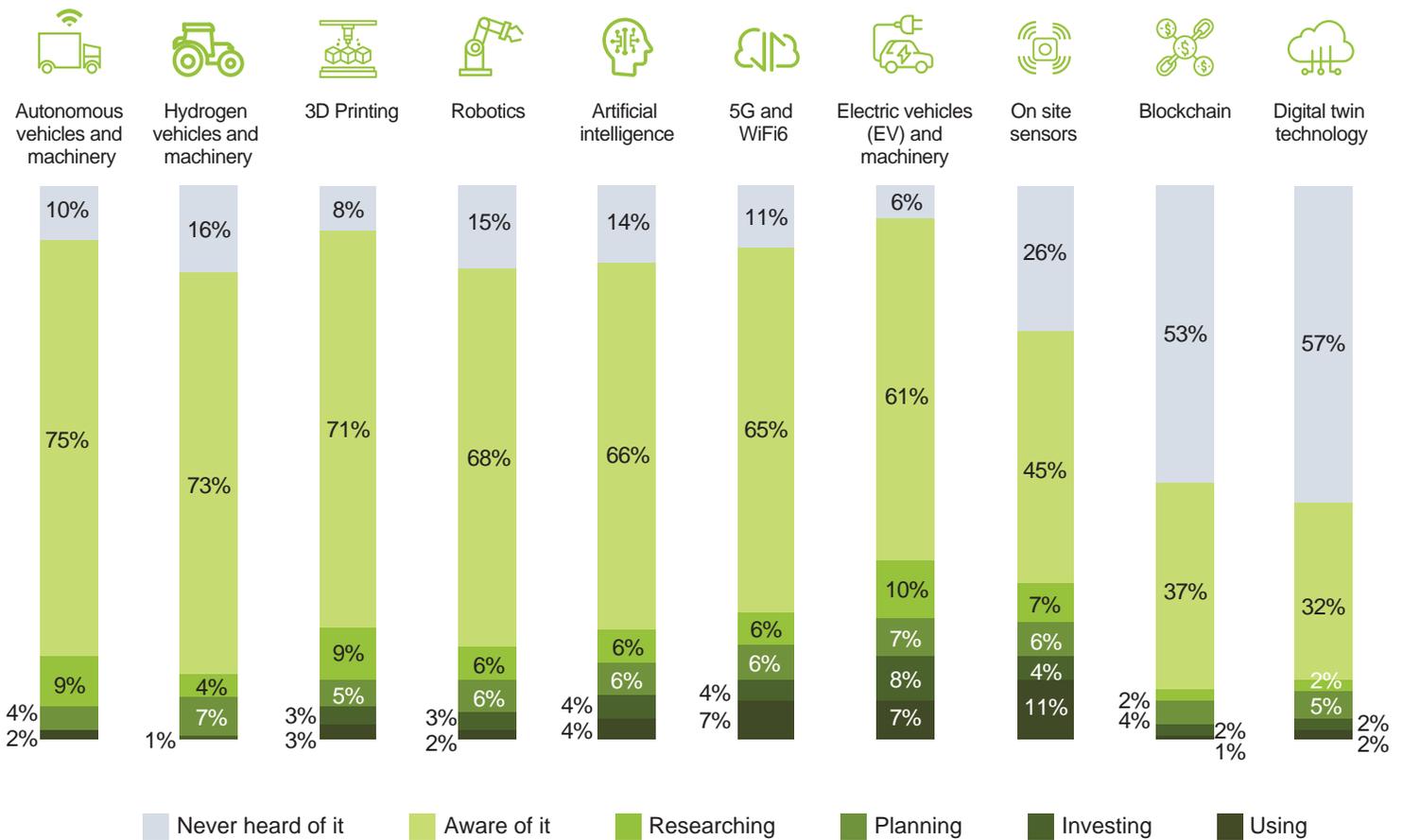


Q27. What types of on-site technology solutions do you currently use in your business? Base: 2021 Total (n=161)

Emerging Technologies

While most businesses are familiar with a wide range of emerging technologies, usage is relatively low: on-site sensors are the only technology to record double-digit usage. Most businesses are still focused on researching, planning and investing in new technologies. And over half of decision-makers have never heard of blockchain and digital twin technologies.

Knowledge of emerging technologies



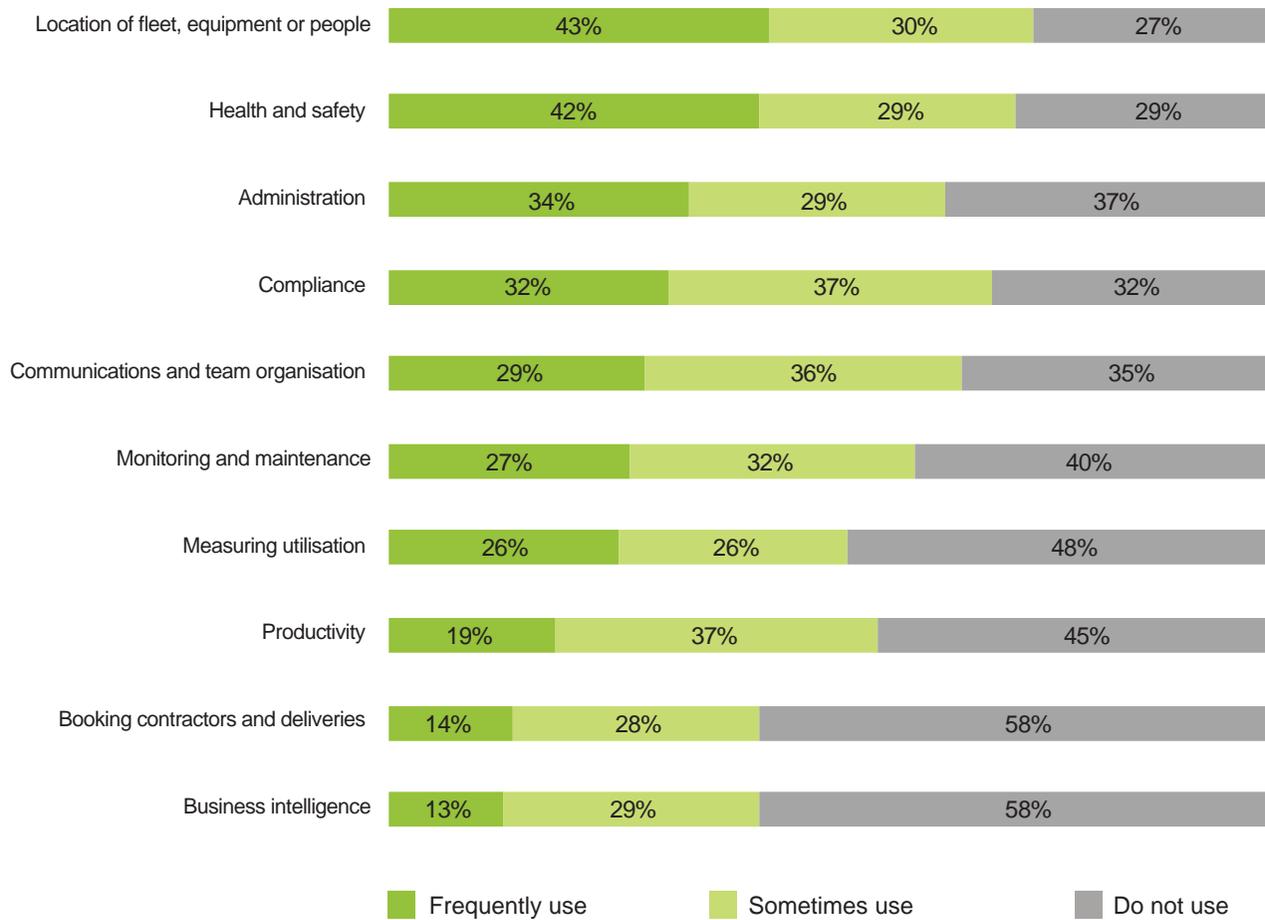
Q29. How knowledgeable is your business in each of these emerging technologies?

Base: 2021 Total (n=161)

Specialised Construction Technology

Specialised technology is frequently used for location tracking, health & safety and administration tasks. Businesses however are less likely to use technology for intelligence gathering purposes.

Purpose of specialised construction technology



Q28. Thinking about each of the following purposes, do you use any specialised construction technology or software on the job site? Base: 2021 Total (n=161)

Use of technology

A third of the industry reported needing to have certain technologies to bid for work, while half have highlighted the use of on-site technology to win work. GPS is a requirement, but also the most promoted technology.

Technology that's helping companies win jobs



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

- “Advanced health and safety procedures”
- “Their own software for pricing. Also with GPS reading for site levels.”
- “Their plant safe operation requirement”
- “Site check in apps for monitoring contractors going in and out of sites.”



HIGHLIGHTED THE USE OF ON-SITE TECH TO WIN WORK

GPS vehicle / fleet tracking/ fleet management	23%
Machine control/GPS machine control	21%
Health and safety/health and safety app	17%
Apps and software (specialised)	13%
GPS/ GPS tracking - unspecified	10%
GPS asset tracking / asset management/ tracking machine hours	10%
Onsite/in field capture of data/live/real-time data	8%
Document management/forms and reports/paperless	6%
Fast data sharing/with others/with client on request	5%
Environmental app/tracking of carbon footprint/monitoring fuel emissions	4%
Drones/drone surveying	3%
Improving efficiency	3%
Lasers guidance	3%
Monitoring/tracking staff	3%
Electric vehicles	1%

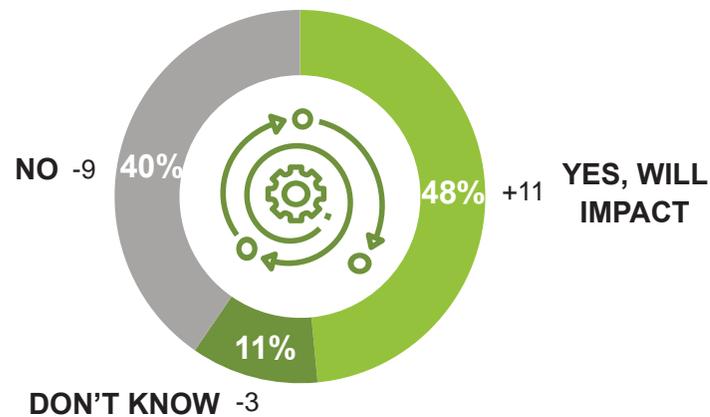


Q30. Have any of your customers mandated that you must use a certain technology in order to bid for work? / Q31. What technology did they require you to use? / Q32. Have you highlighted your use of on-site technology (e.g. fleet tracking, asset tracking, health and safety apps) to win projects or work?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

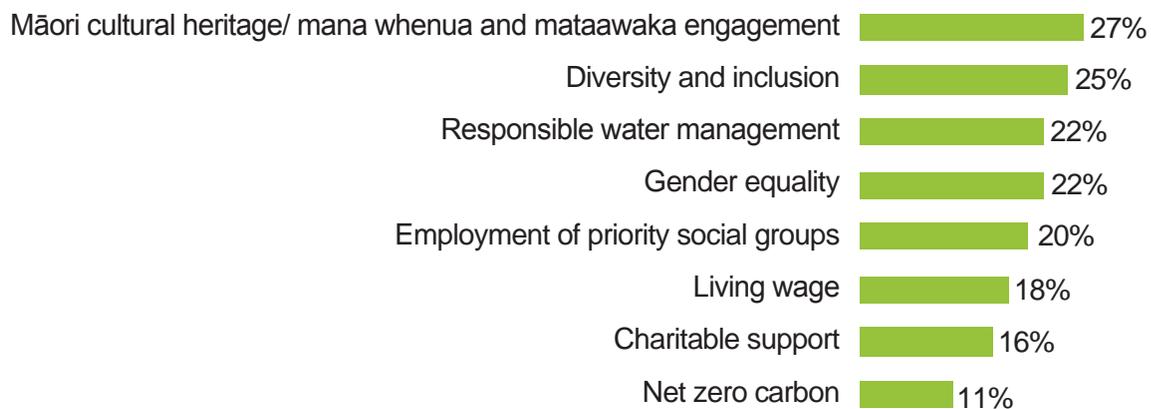
Sustainability in Procurement

Sustainability is becoming an issue of importance after the Covid-19 disruption of last year. Now, half indicate that sustainability practices will impact on winning business and 37 percent say they won new business based on a broader specification such as using local people and supply chains.

Impact of sustainability practices on procurement



**HAVE WON
CONTRACT
BASED ON
A BROADER
OUTCOME**



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: 2021 Total (n=161)

Civil Contractors New Zealand

Civil Contractors New Zealand represents the interests and aspirations of more than 600 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.



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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. It tracks and manages more than 550,000 vehicles and assets for more than 40,000 companies around the world. The company is headquartered in Garden Grove CA, with additional offices in New Zealand, United States, United Kingdom, Australia and Mexico.



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