Teletrac Navman | Civil Contractors New Zealand

2023 Construction Industry Survey

Homer Tunnel resurfacing works in Fiordland
Provided by Downer NZ

FOREWORD

This is the seventh 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 civil construction industry and its outlook for the future, as well as stimulating discussion on industry views amongst private and public organisations, local and central government.

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Homer Tunnel resurfacing works
Photo provided by Downer NZ

THE 2023 SURVEY AIMED TO EXPLORE:

The industry response to sector issues and its outlook for the future, including potential future government initiatives.

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

The future of technology and how this can impact on procurement, site and asset management.

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Jervois Quay Emergency Stormwater Upgrade, Wellington
Photo provided by E Carson & Sons

KEY FINDINGS

Jervois Quay Emergency Stormwater Upgrade
Photo provided by E Carson & Sons

Key Industry Issues for the next three years

84% think development of a clearer pipeline of central and local Government work will have a **positive** impact.

69% think new immigration changes enabling green list pathways for civil construction workers will have a **positive** impact on the industry.

36% feel that there's an opportunity to participate in the recovery of extreme weather events.

Industry Outlook and Confidence

34% Optimism in the sector is decreasing, with only 34% confident in the civil construction industry outlook (declining from 41%).

44% 44% are predicting turnover growth in the next year (declining from 52%).

74% The majority (74%) feel infrastructure investment and maintenance should be a top two initiative for the new government.

Significant increases in several factors contributing to a challenging industry future:

- Sudden changes in government pipeline
- Visibility of project pipeline
- Environmental sustainability issues
- Collaboration between clients

Workforce

72% Skills shortages still reported as the major challenge for future growth but significantly declining since 2022 (72% vs 84%).

54% Furthermore, significantly less will be looking to increase their staff in the next 12 months (54% vs 63%).

71% have staff working on a nationally recognised qualification or apprenticeship.

Technology and Procurement

52% highlighted the use of on-site tech to win work

19% (up 10%) now using electric vehicles and machinery.

69% have had extreme weather events impact their projects, with project delays and contract changes being the main resulting outcomes.

KEY INDUSTRY ISSUES

Installation of the Peacocke Northern Water Mains
Photo provided by CB Civil

INDUSTRY SNAPSHOT

Civil contractors play a vital role in the development of New Zealand.

Civil contractors 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 in world markets and to deliver high living standards for its people.

TOP 5 EVENTS AND ISSUES

Expected events and issues with most positive impact in the next 3 years

The development of a clearer pipeline of government work is more likely to positively impact civil construction businesses in 2023 than previous years and remains the most important factor.

2023

- **84% ▲** Development of a clearer pipeline of Government and local Government work
- **69%** New immigration changes enabling greenlist pathways for civil construction workers
- **52%** The review of standard 3910 construction contracts
- **49%** Changes to retentions regimes to better protect retentions
- **48%** Resource Management Act reforms

2022

- **71%** Development of a clearer pipeline of Government and local government work
- **59%** Immigration – ability to employ migrant workers under new visas and accreditation
- **57%** Government's increased procurement emphasis on training and development of people and other social outcomes
- **45%** Changes to the retentions regime to better protect retentions
- **44%** Central and local government focus on environmental sustainability

2021

- **74%** Development of a clearer pipeline of central and local Government work
- **66%** Regional projects proposed under the Shovel Ready Projects programme
- **61%** Large projects proposed under the NZ Upgrade Programme
- **56%** Governments increased procurement emphasis on training and development of people and other social outcomes
- **45%** The reform of Vocational Education

EXPECTED IMPACT IN THE NEXT 3 YEARS

Development of a clearer pipeline of work remains as the issue likely to have the most positive impact on the industry, increasing in importance from last year. Given that uncertainty, the increase in demand for civil works in response to and mitigation of cyclone/flooding events is something the industry will need to scale up for over the next three years. Waters reforms have also increased in importance, with some initiatives being implemented already. The government's emphasis on broader outcomes when making procurement decisions, is seen as having a less positive impact than previously.

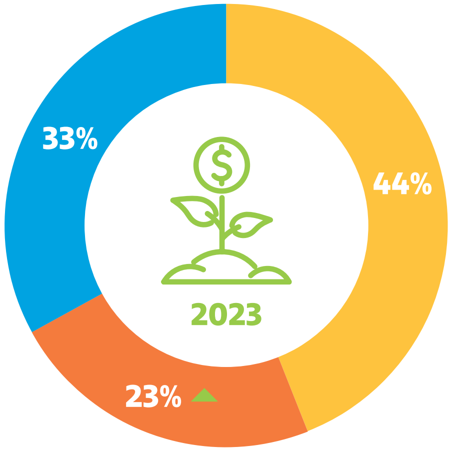
	A high negative impact	A negative impact	No significant impact	A positive impact	A high positive impact	NET POSITIVE 2023	2022	2021
Development of a clearer pipeline of central and local Government work		3%	13%	65%	19%	84% ▲	71%	74%
New immigration changes enabling greenlist pathways for civil construction workers	2%	3%	27%	57%	12%	69%	NA	NA
The review of standard 3910 construction contracts	2%	7%	40%	47%	5%	52%	NA	NA
Changes to retentions regimes to better protect retentions	2%	7%	42%	41%	18%	49%	23%	NA
Resource Management Act reforms	5%	20%	27%	40%	8%	48% ▲	NA	NA
Central and local government focus on environmental sustainability	7%	17%	32%	40%	4%	44%	44%	37%
The Construction Sector Accord	2%	4%	55%	37%	3%	40%	32%	NA
The New Zealand Infrastructure Commission - Te Waihanga, as an independent infrastructure body	5%	18%	39%	33%	6%	39%	37%	35%
Government's increased procurement emphasis on broader outcomes	6%	22%	34%	37%	2%	39% ▼	57%	56%
Major weather events and climate mitigation efforts	11%	33%	21%	33%	3%	36% ▲	24%	NA
The level of proposed infrastructure investment under the latest budget	6%	24%	35%	31%	5%	36%	36%	NA
Three Waters reforms	15%	23%	28%	29%	5%	34% ▲	24%	NA
Waste minimisation and increasing landfill levies	10%	38%	26%	23%	3%	26%	19%	22%
The Zero Carbon Bill, which provides a framework for New Zealand to develop and implement climate change policies	12%	34%	30%	22%	2%	24%	23%	24%
Changes to the road user charges scheme	5%	39%	36%	18%	3%	21%	23%	NA
Increase of minimum wage from $21.20 to $22.70 per hour on 1 April 2023	10%	29%	41%	17%	3%	20%	25%	NA
The need to negotiate collective employment agreements under the proposed Fair Pay Agreements Bill	16%	26%	39%	16%	3%	19%	19%	NA
Skills shortages due to immigration/border closures/securing visas	15%	52%	25%	8%	1%	9%	7%	NA

INDUSTRY OUTLOOK

Installation of a rockfall canopy near Kaikoura
Photo provided by Rock Control

EXPECTED TURNOVER CHANGE IN THE NEXT 12 MONTHS

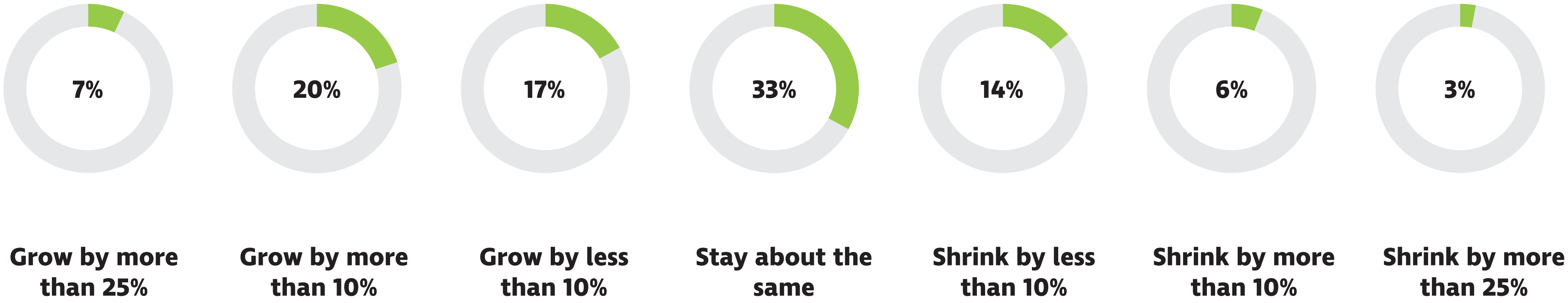
Expected changes to business turnover for the next 12 months has slightly shifted, with a third expecting their turnover to remain the same and less than half expecting growth in the next 12 months.



Expect turnover growth in the next 12 months
2022 = 52% – 2021 = 55%

Expect turnover to reduce in the next 12 months
2022 = 11% – 2021 = 9%

Expect turnover stay the same
2022 = 37% – 2021 = 36%



CONFIDENT IN

Positive outlook in the industry is declining overall, specifically with decreased confidence in the future pipeline of work and the ability of NZ's infrastructure to cope with severe weather events. However, there has been a slight increase in confidence in the ability of new technology to improve business efficiency.

62%

(63%)

The ability of your business to withstand change and overcome challenges

52%

(45%)

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

34%

(41%)

Civil construction industry outlook

28%

(39%)

The future pipeline of civil construction work

18%

No Change

The Government's commitment to infrastructure

9%

Adequate funding for projects and maintenance initiatives

18%

No Change

The Government's commitment to infrastructure

7%

17%

The ability of New Zealand's infrastructure to cope with climate change

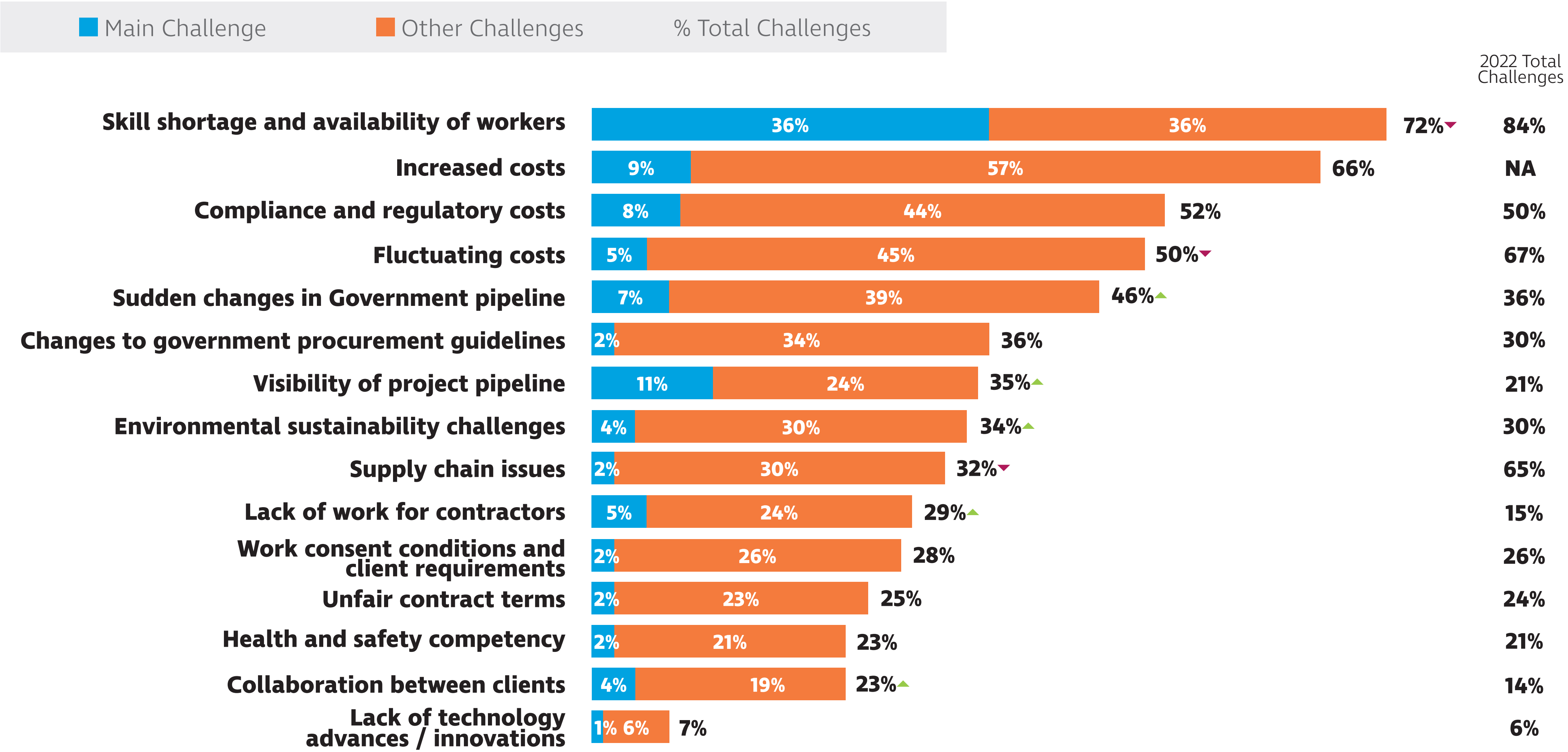
(e.g. erosion, severe weather events)

( ) previous wave scores

No significant differences to previous

CHALLENGES TO FUTURE GROWTH IN THE CONSTRUCTION INDUSTRY

Skill shortages remain one of the biggest challenges facing the industry, however this has decreased compared to last year. The next most challenging aspect is increased costs. Factors that have become more important in 2023 are government project changes, visibility of the project pipeline, environmental sustainability changes and collaboration between clients.



SUGGESTED SOLUTIONS TO INDUSTRY CHALLENGE – SKILL SHORTAGES

Positive outlook in the industry is declining overall, specifically with decreased confidence in the future pipeline of work and the ability of NZ's infrastructure to cope with severe weather events. However, there has been a slight increase in confidence in the ability of new technology to improve business efficiency.

SUGGESTIONS		Change from 2022
Bring back apprentices/better training for NZers/promote the trade in schools	**23%**	13%
Make it easier for skilled people/migrant workers to enter NZ	**23%**	37%
Encourage people/young people to join the industry	**4%**	13%
Government to continue subsidising training	**10%**	11%
Better pay and conditions	**11%**	7%
Don't give people welfare/the dole so they have to work	**8%**	2%

- *Find a way to attract and keep more skilled staff, what benefits can companies provide outside of good wages etc. Training plans etc.*
- *Our education system involving trades as a pathway for all students. More interactions between work experience and schools.*
- *Keep investing in the trades training. Maintain a consistent pipeline of work so companies can continue to keep apprentices employed.*
- *Allow work visa for skilled labour workers to enter the country. Offer incentives to bring overseas workers into the country. Simplify the work visa process.*
- *More focused civil construction training programmes i.e. apprenticeship. Champion civil construction as a trade to rival plumbing etc.*
- *Make the fees free so more people are trained. Have better apprenticeship/training programmes for students at high school that don't want to go to Uni but want a decent career.*
- *Make it attractive for skilled people to come to the country and for us to be able to retain them as a nation.*

+ / - differences from previous

▲▼ Significantly higher / lower than previous

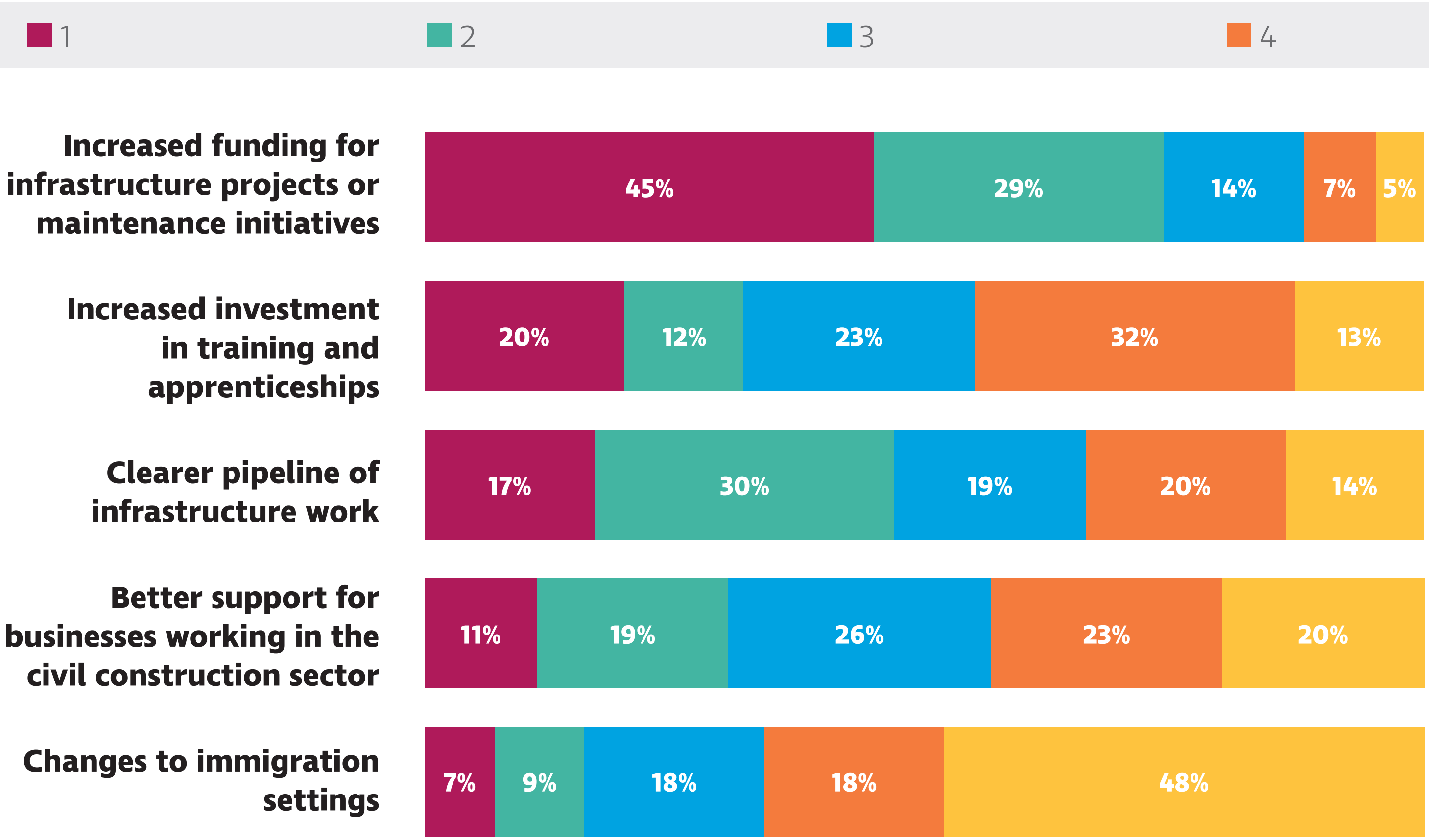
SUGGESTED SOLUTIONS TO INDUSTRY CHALLENGE – INCREASED COSTS

Suggested solutions to help with increased costs are varied but some specific ideas could be ‘quick wins’ for the industry.

- *Remove some of the requirements that are in place and provide practical useful alternatives.*
- *Not much that can be done, just hard not to cut corners when others in the industry do.*
- *Announce the pipeline so that contractors can have visibility and confidence that they do not need to contract their business operations.*
- *Use of ECI to get better outcomes. Mindset change from engineers realising contractors are not money hungry so can help get better infrastructure outcomes.*
- *More funding committed from the government to prioritise climate change outcomes.*
- *The reuse of material for trench lines rather than import fill say last 600mm imported fill. TTM costs are through the roof.*
- *Costs will not drop until demand does. Lack of Productivity of NZ workers also drives increased costs.*
- *Better manager skill and more careful budgeting.*
- *Key builds for future with taking into consideration impacting climate change and future proofing for increased size of towns and cities especially in infrastructure with incentives for towns in paying less taxes or costs to implement these builds for our future... Allowing more players in the field with building suppliers and suppliers of construction materials to make competition more so prices are lowered.*

RANKING OF POTENTIAL CIVIL INITIATIVES

Close to half of businesses view increased funding for infrastructure/maintenance projects as the most important initiative from an incoming government following the 2023 election.



More focus on infrastructure	**14%**
Certainty/continuous project pipeline	**9%**
Less money wastage	**8%**
Less bureaucracy /red tape	**8%**
More collaborative approach	**8%**
Address funding/finance challenges	**7%**
Better management	**7%**

- Money spent wisely throughout the whole country rather than just big one-off projects. More renewals and spending money to actually fix problems with assets rather than poorly maintaining them and sweating the asset.
- A reduction in compliance costs. Less money being spent on consultants and more physical works.
- More scope to spend money on infrastructure for local governments and clearer forward works from local government to keep contractors in the loop regarding upcoming projects.

PRIORITY FOR GOVERNMENT

Industry decision makers were asked what they think the NZ government should be prioritising, and the Health system was the most important, followed by transport and education.

22% Health

16% Transport

15% Education

13% Environmental and resource management

10% Taxation

9% Water

6% Immigration

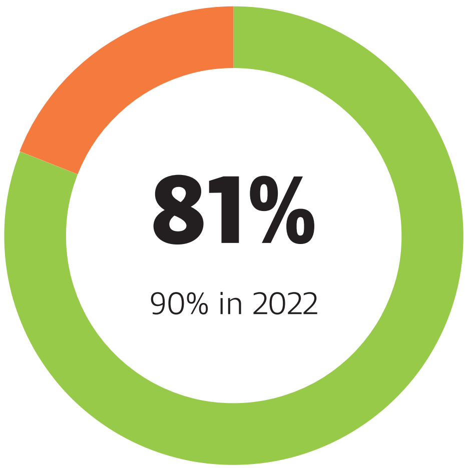
3% Emergency response

3% Employment

- A strong health system underpins our society and in turn our economy.
- Our health system is falling apart at the seams. Nothing has been done. Yet another election promise that has had no in-roads made.
- The way we plan and fund transport is disconnected and it starts with the government.
- Quality of education for school leavers is deteriorating and going to contribute to a downward spiral. Schools are under-resourced and quality of teachers is dropping as people leave the industry to seek better pay.
- Need to align the tax brackets with today's incomes.

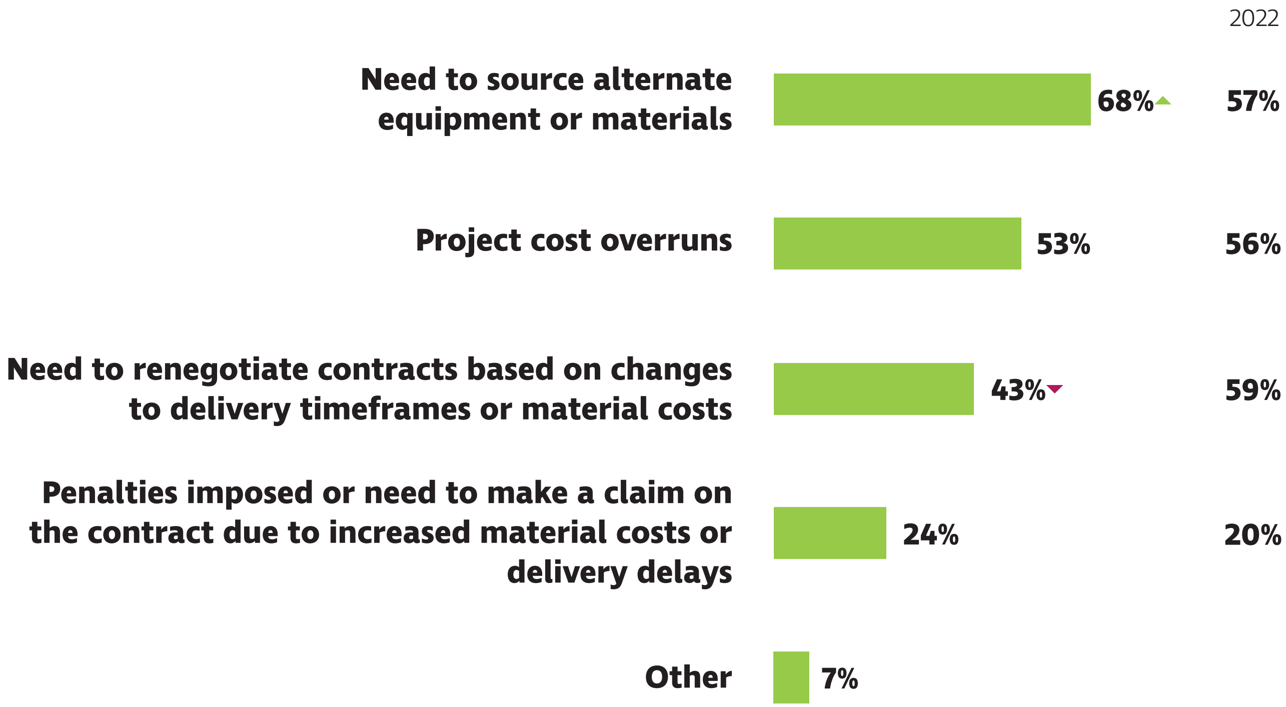
COST ESCALATION AND SUPPLY CHAIN ISSUES

While cost escalation and supply chain issues have decreased since 2022, most businesses have still been significantly impacted by these issues in the last 12 months.



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



▲▼ Significantly higher / lower than previous

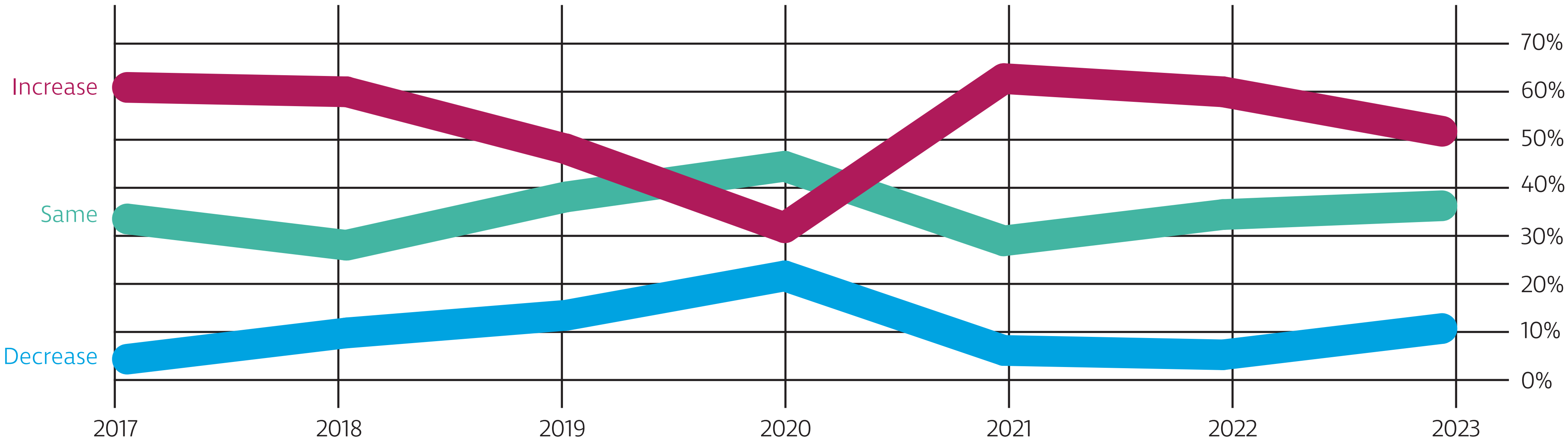
WORKFORCE & PROCUREMENT

Temporary traffic management workers in training at a pilot Infrastructure Skills Centre

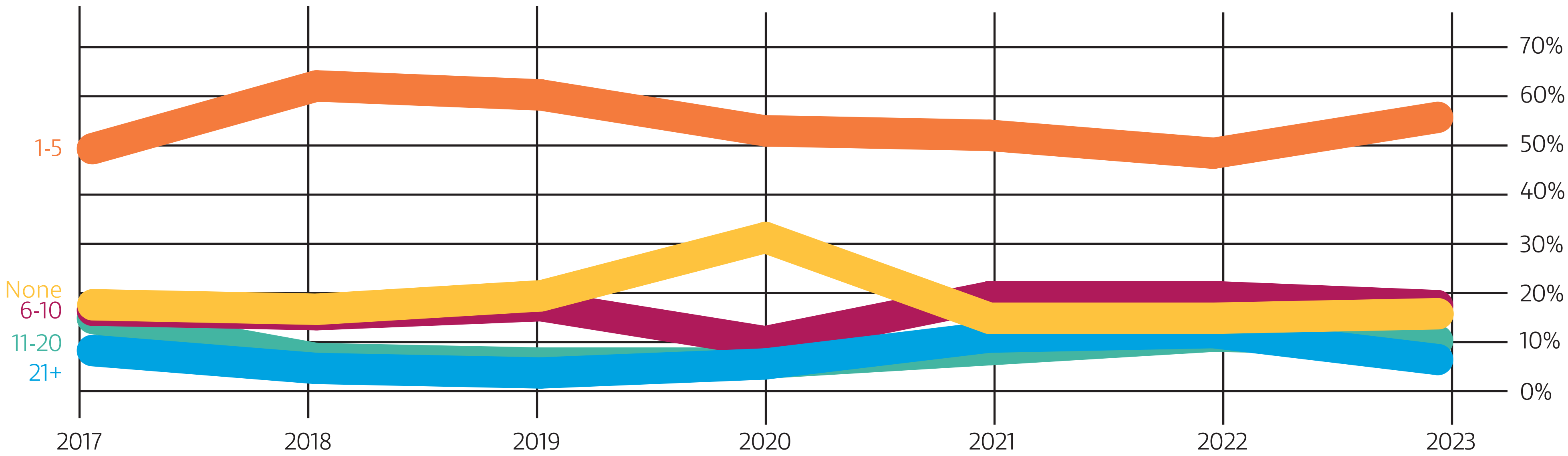
STAFFING & WORKFORCE REQUIREMENTS

There appears to be a softening for labour demand in 2023 compared to the past 2 years.

REQUIREMENT FOR STAFF IN THE NEXT YEAR



NUMBER OF STAFF WOULD RECRUIT TODAY...



RECRUITING IN 2023

Nearly all businesses that require more staff are putting measures in place for recruitment, mainly through competitive pay packages. After machine operators, experienced field workers are also in demand for the skillset needed the most.

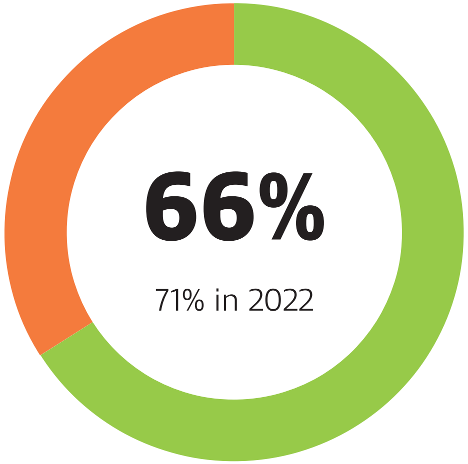
Those who require more staff in the next year...

MEASURES BEING PUT IN PLACE TO HELP WITH RECRUITMENT:	2023	2022
Competitive wages / salaries	**80%**	**81%**
Introductory training	**41%**	**40%**
Working more closely with training organisations e.g. Connexis	**37%**	**39%**
Flexible hours	**35%**	**36%**
Improved inclusiveness and diversity within your organisation	**34%**	**41%**
Relocation incentives	**20%**	**21%**

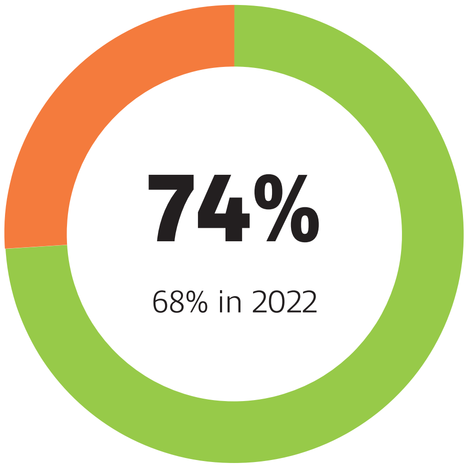
SKILLSETS NEEDED:	% needed the most (ranked 1st)	Top 3 (ranked 1st, 2nd, 3rd)
Machine operator	**28%**	**63%**
Experienced field worker	**24%**	**56%**
Supervisor/team leader	**16%**	**56%**
Expert/Specialist surveyor/civil engineer	**9%**	**24%**
Project manager/health and safety manager/contracts manager	**9%**	**34%**
Entry level field worker	**6%**	**37%**
Senior manager	**5%**	**12%**
Entry level surveyor/civil engineer	**2%**	**17%**

TRAINING AND QUALIFICATIONS OF STAFF

The majority feel they have the right resources to train staff and there has been an increase in using external trainers if necessary. More than 80% of the industry have staff members who are working towards a nationally-recognised qualification/ apprenticeship (consistent on last year).

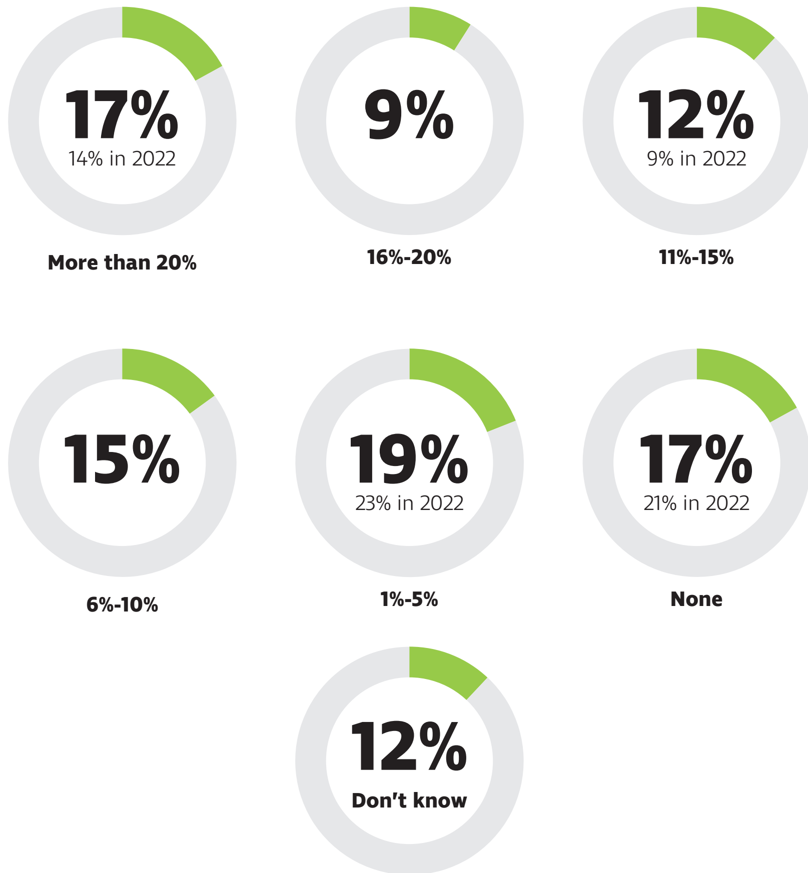


REQUIREMENT FOR STAFF IN THE NEXT YEAR



USES EXTERNAL TRAINER TO HELP STAFF DEVELOPMENT

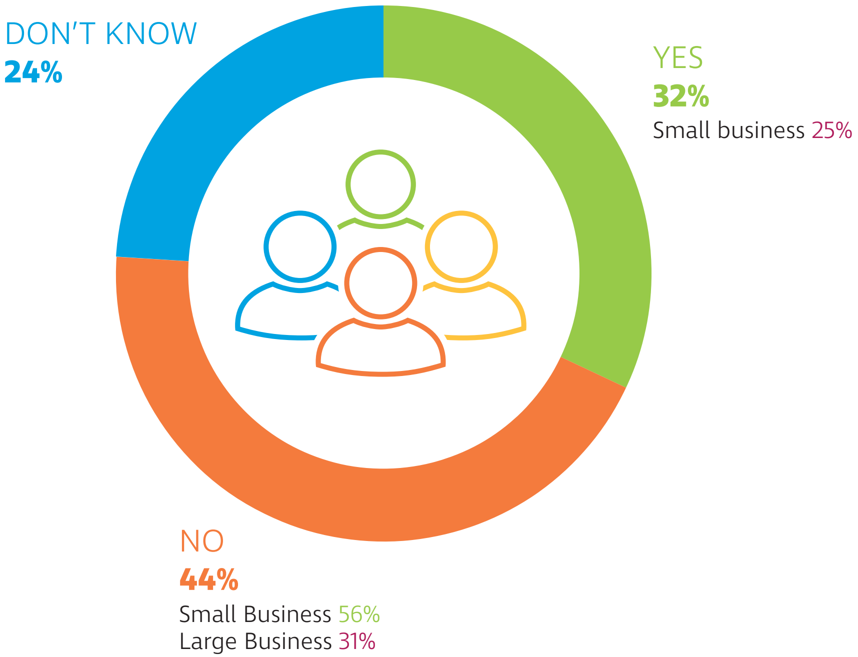
% OF STAFF ON NATIONALLY RECOGNISED QUALIFICATION / APPRENTICESHIP



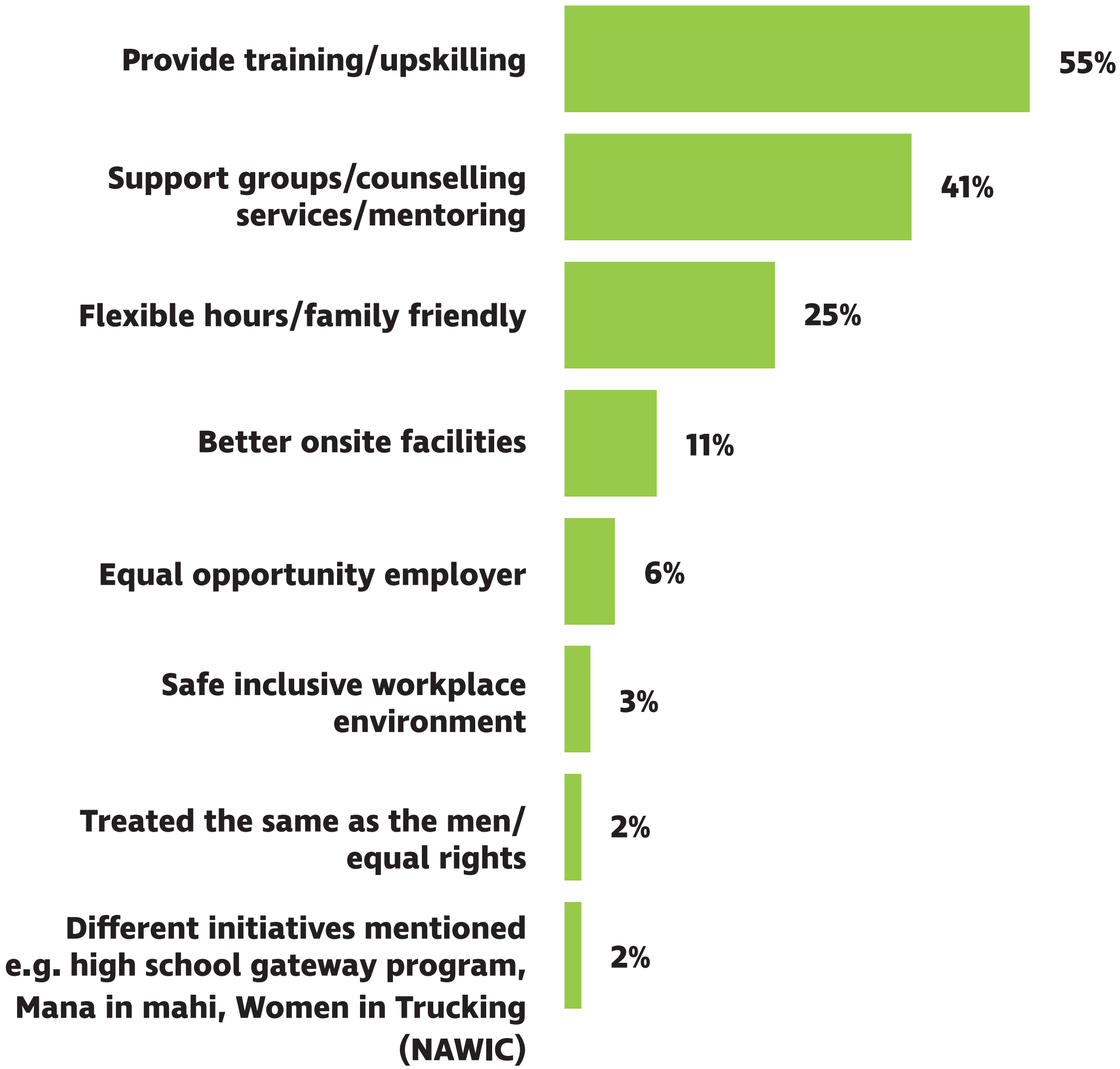
DIVERSITY INITIATIVES

One third of businesses have initiatives in place to support diverse staff in on-site roles, with large businesses more likely to have initiatives in place compared to small businesses. Initiatives most likely to be in place are providing training or upskilling to support these staff.

INITIATIVES TO SUPPORT DIVERSE STAFF



CURRENT INITIATIVES

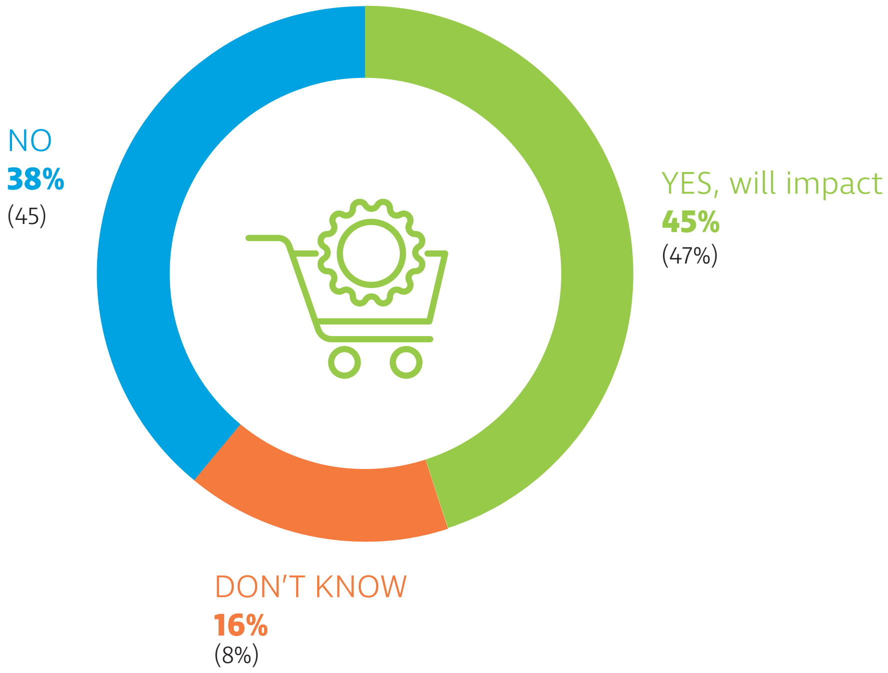


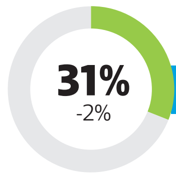
Significantly higher / lower than Total

PROCUREMENT

As seen last year, almost half of businesses say their clients indicated that sustainability practices would impact procurement decisions. Around a third of businesses say they have won a contract based on broader outcomes – with upskilling local people/economy and local stakeholder engagement considered by clients in project tenders.

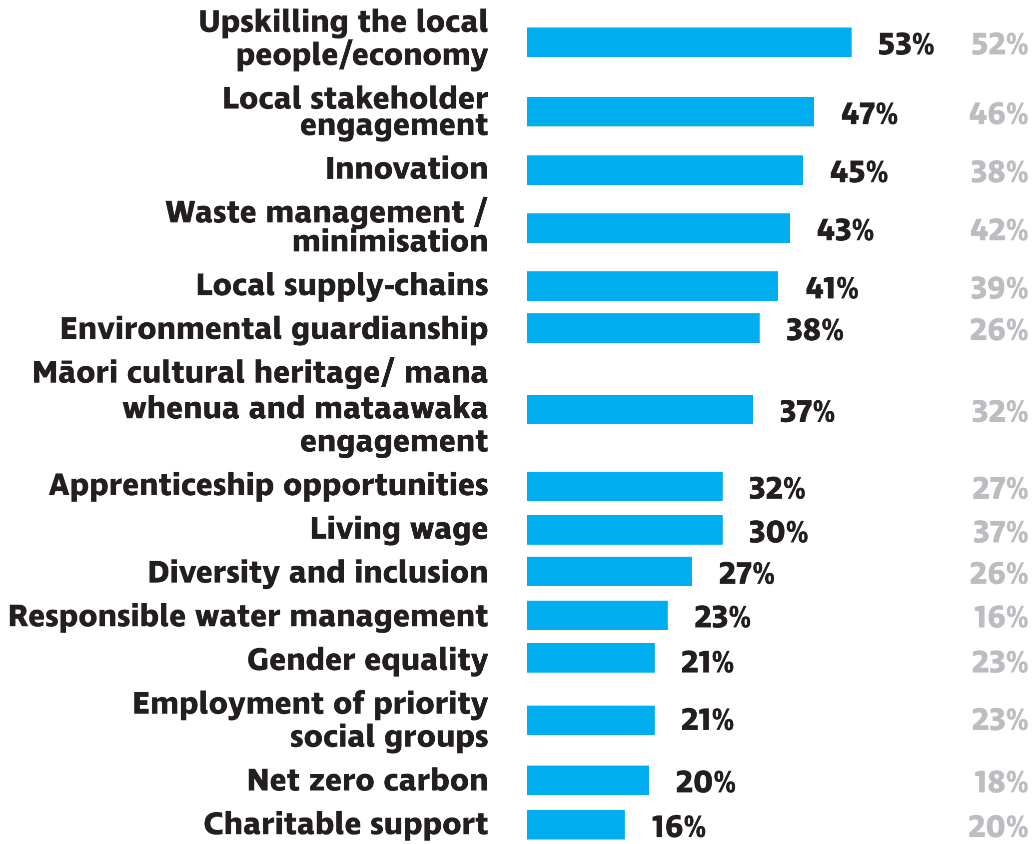
IMPACT ON CLIENTS' PROCUREMENT DECISION DUE TO BUSINESS'S SUSTAINABILITY PRACTICES...





HAVE WON CONTRACT BASED ON A BROADER OUTCOME

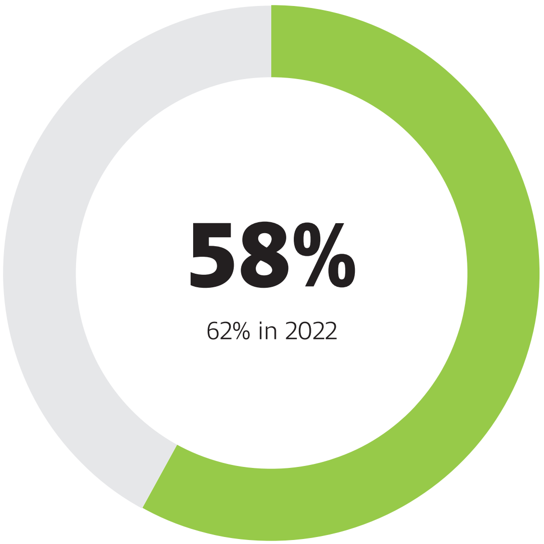
Other benefits considered in tenders



( ) previous wave scores
No significant differences to previous

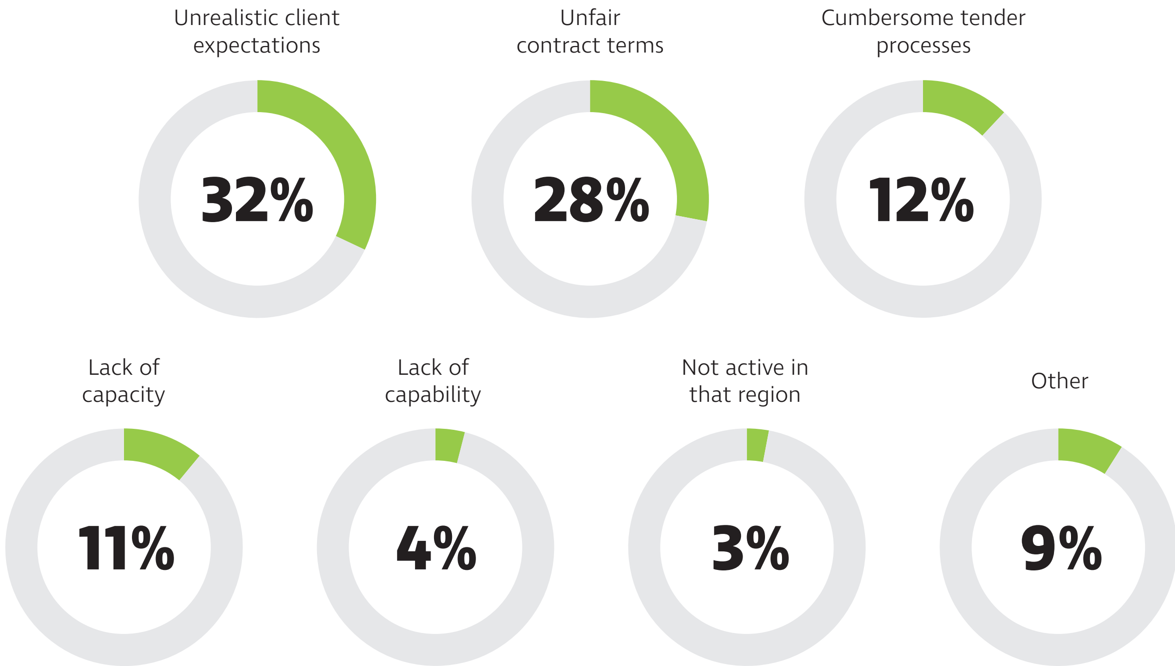
UNSUITABLE CONTRACT TERMS

Over half of businesses have refused a tender opportunity or not made a bid for work because of unsuitable contract terms. Unrealistic client expectations and unfair contract terms continue to be the main reasons for refusing the tender opportunity or not making a bid for the work.



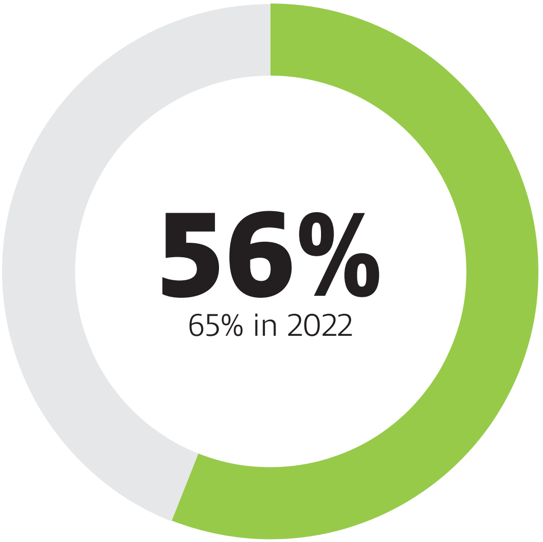
of businesses say they have refused a tender opportunity or not made a bid for work because of unsuitable contract terms

Reasons why the contract terms made the business refuse the tender opportunity or not make a bid for the work

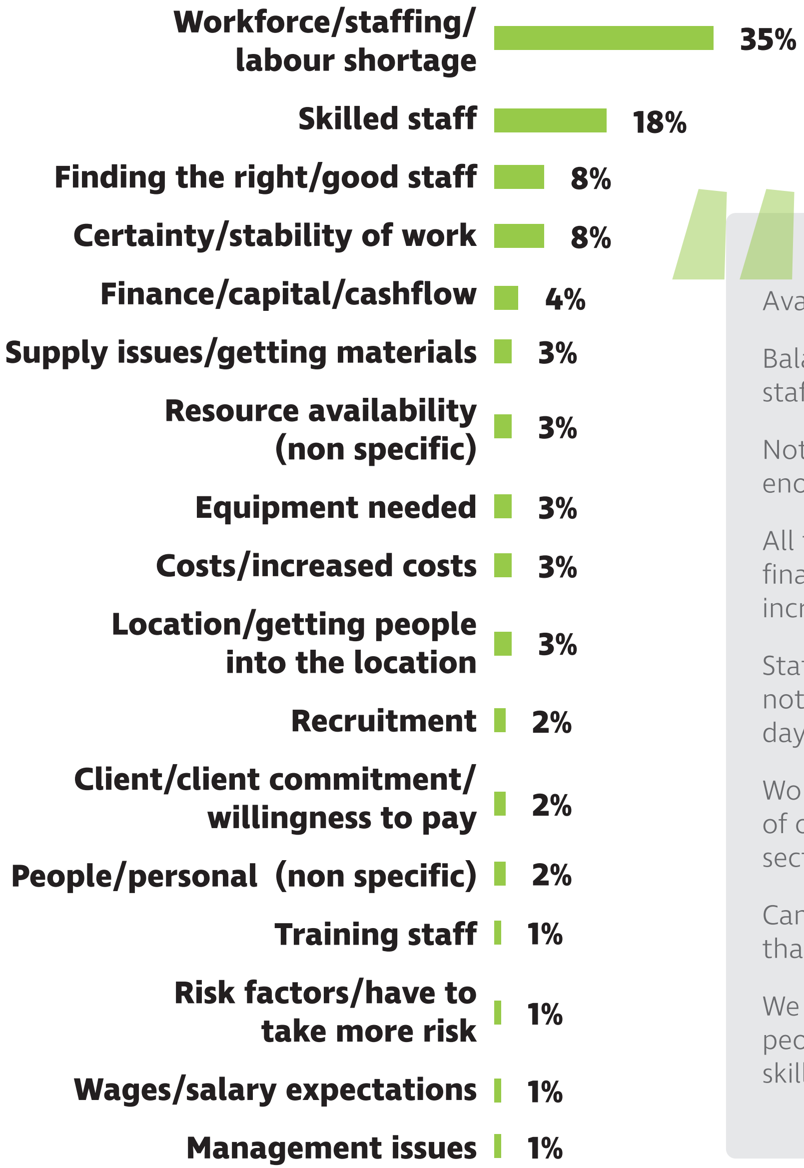


WORK CAPACITY

More than half of businesses have been asked to increase their capacity, with lack of staff being the largest barrier to increase work capacity.



of businesses say clients have asked them to increase their capacity to take on work



"Availability of suitably qualified people.

Balancing workload and finding more skilled staff.

Not enough experienced staff and not enough equipment.

All the ones relating to resource and financial aspects, along with potential increase of H&S related risk!

Staff shortages, current rates, some clients not paying on time and in some cases 300+ days late. Time there is not much of it.

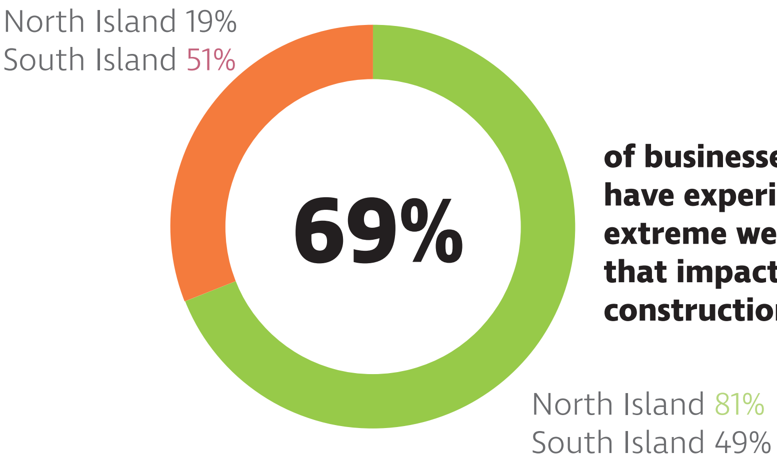
Working in the gas sector we are unsure of our future role in New Zealand's energy sector.

Can't get skilled staff. Staff turnover higher than normal e.g. moving to Australia

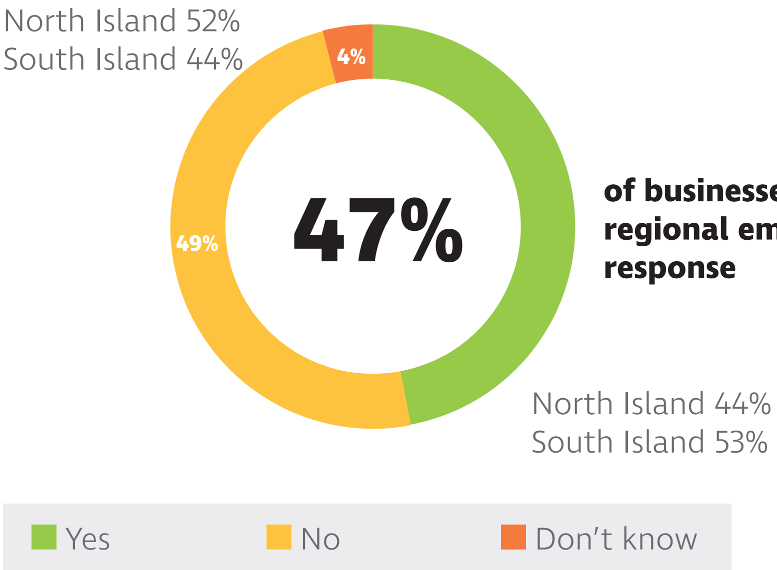
We are remote, it is difficult to get new people to move to town, particularly with skills & experience."

EXTREME WEATHER AND EMERGENCY RESPONSE

More than two thirds of businesses had experienced extreme weather impacting construction projects. Of these, a third had projects delayed/paused and a quarter had to make changes to contracts. Just less than half of businesses are involved in regional emergency or disaster response.

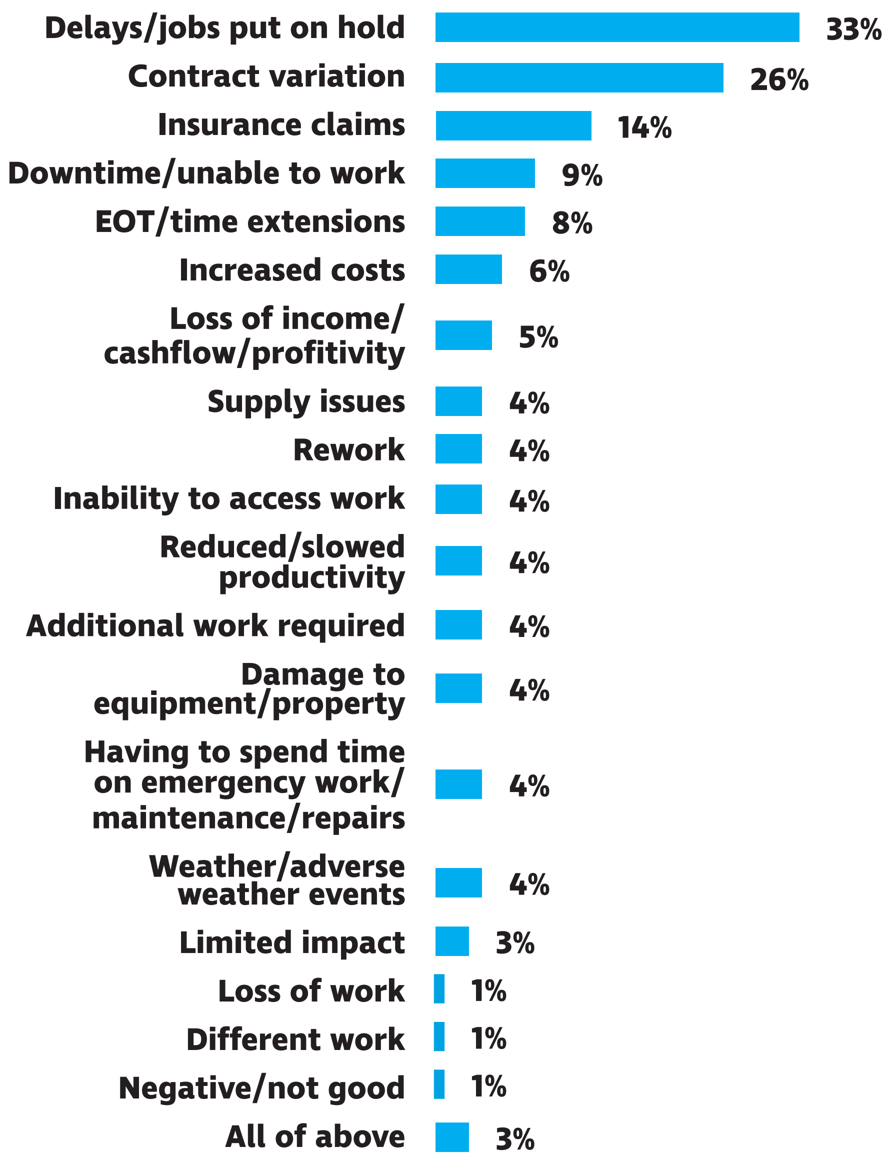


of businesses say they have experienced an extreme weather event that impacted their construction project



of businesses are involved in regional emergency or disaster response

HOW DID THIS IMPACT CONSTRUCTION PROJECTS



TECHNOLOGY

A grader in action
Photo provided by Hiway Stabilizers NZ

TECHNOLOGY BEING USED WITHIN THE BUSINESS

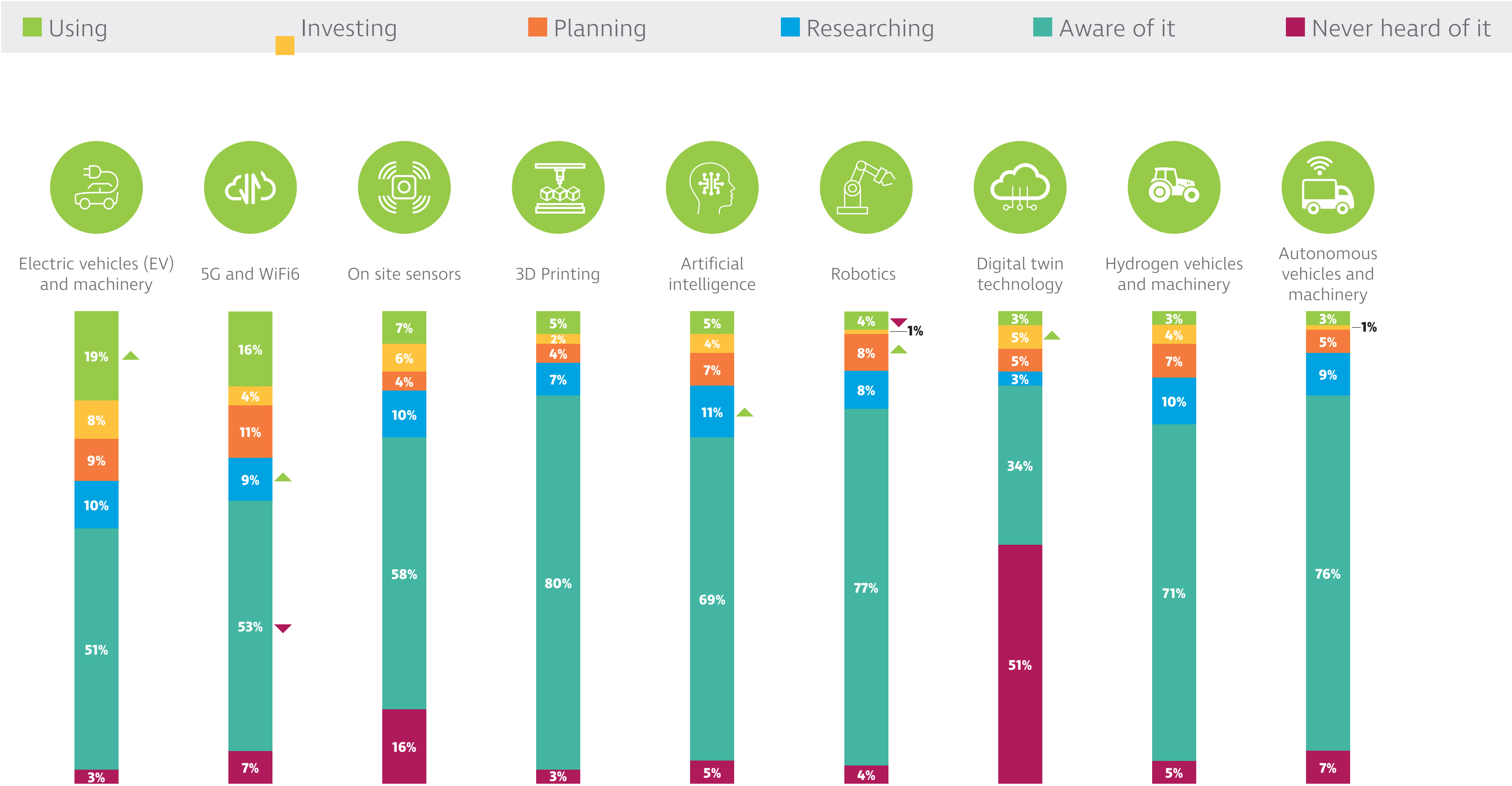
The top 5 technology usage has remained consistent with last year. 3D scanning and resource/time modelling was added to the list of technologies with a fifth using it. ( ) = 2022 scores

Rank	Usage	2022	Technology
1	**84%**	(81%)	PHONE/TABLET APPS FOR TIMESHEETS, CHECKLISTS, DOCUMENTS ETC.
2	**76%**	(78%)	FLEET TRACKING AND MANAGEMENT SYSTEM (FOR VEHICLES)
3	**62%**	(64%)	LARGE ASSET TRACKING AND MANAGEMENT SYSTEM (FOR PLANT, MOBILE MACHINERY)
4	**61%**	(NA)	UNDERGROUND SERVICES LOCATION AND MAPPING
5	**59%**	(NA)	CAMERAS – ON SITE

Usage (2022)	Technology
58% (51%)	Estimating, planning, and project control software (e.g. Microsoft Power BI, Candy etc.)
55% (49%)	Machine control and guidance
54% (46%)	Drones
45% (46%)	Small asset tracking and management system (for equipment/tools, immobile items)
45% (42%)	Fuel management systems
40% (44%)	Cameras – in vehicle
31% (23%)	Site booking apps (e.g. to schedule deliveries to site)
28% (21%)	Biofuels, hydrogen or electric vehicles
26% (31%)	Geospatial technologies (e.g. thermal imaging, laser scanning/LiDAR systems)
23% (15%)	BIM (Building Information Modelling)
20% (NA)	3D scanning and resource/time modelling
15% (9%)	Virtual Reality and Augmented Reality
14% (13%)	Artificial Intelligence software (e.g. software that 'learns' from your activities)
14% (15%)	On-site personnel tracking and management system (e.g. wearable technology)

KNOWLEDGE OF EMERGING TECHNOLOGIES

While awareness of tech has remained relatively stable since last year, there has been an increase in use of electric vehicles and machinery, as well as an increase in researching of 5G and Wifi6 and artificial intelligence technology. There was also an increase in planning for robotics technology.



Significantly higher / lower than previous

TECHNOLOGY BEING USED WITHIN THE BUSINESS

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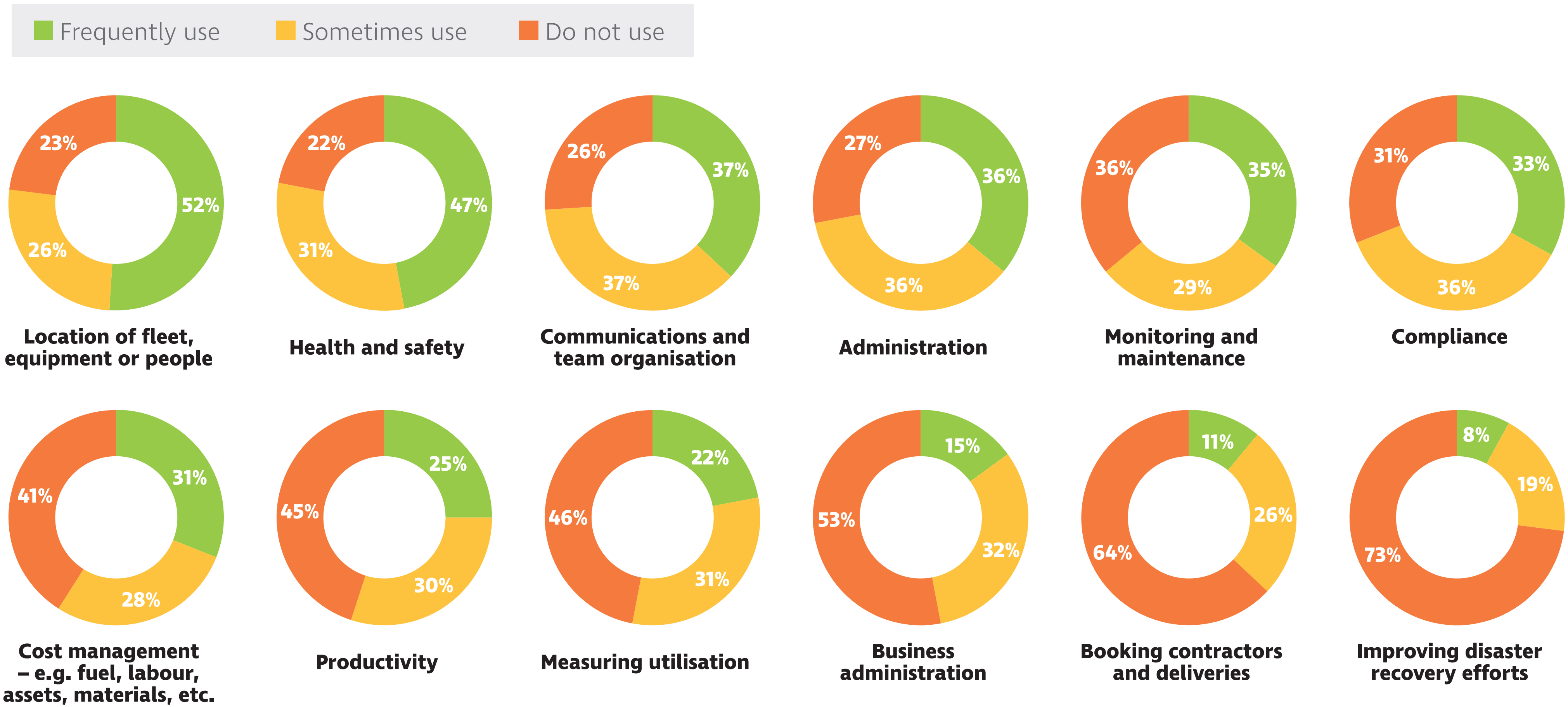


No significant differences to previous

JOB WINNING TECHNOLOGY

Over half of businesses report that they use on-site tech to win work. The most common technology used to win work are GPS/ Vehicle tracking followed by health & safety systems.

27% (23%)

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

52% (50%)

HIGHLIGHTED THE USE OF ON-SITE TECH TO WIN WORK

"Site check in apps for monitoring contractors going in and out of sites.."

"Personnel login apps for Health and Safety on sites."

GPS/Vehicle tracking/Fleet tracking	**25%**
Health and Safety/Health and Safety App	**14%**
None/nothing/no comment	**11%**
Machine Control/GPS Machine Control	**9%**
Asset/fleet management	**6%**
Improving efficiency	**5%**
Onsite/in field capture of data/live/real-time data	**4%**
Drones/drone surveying	**4%**
Environmental app/tracking of carbon footprint/monitoring fuel emissions	**4%**
Monitoring/tracking staff	**3%**

( ) previous wave scores
No significant differences to previous

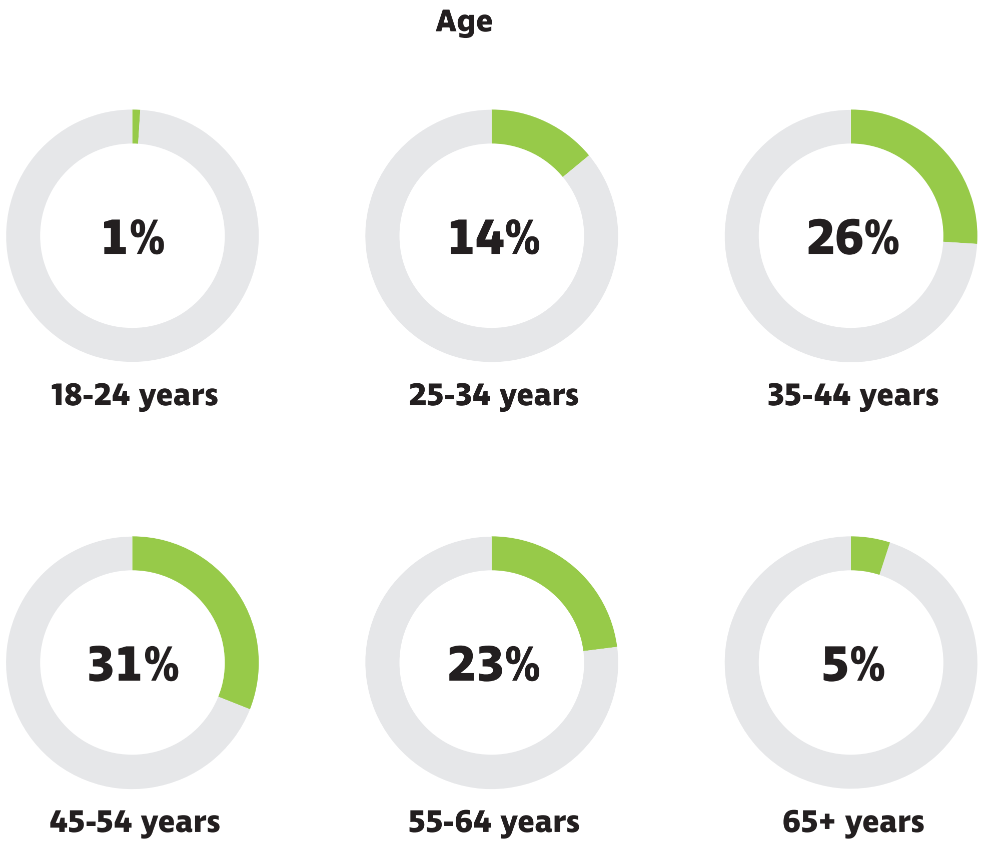
DEMOGRAPHICS

Moving a tree of distinction for State Highway 20B construction
Photo provided by Fulton Hogan

DEMOGRAPHICS AND METHODOLOGY

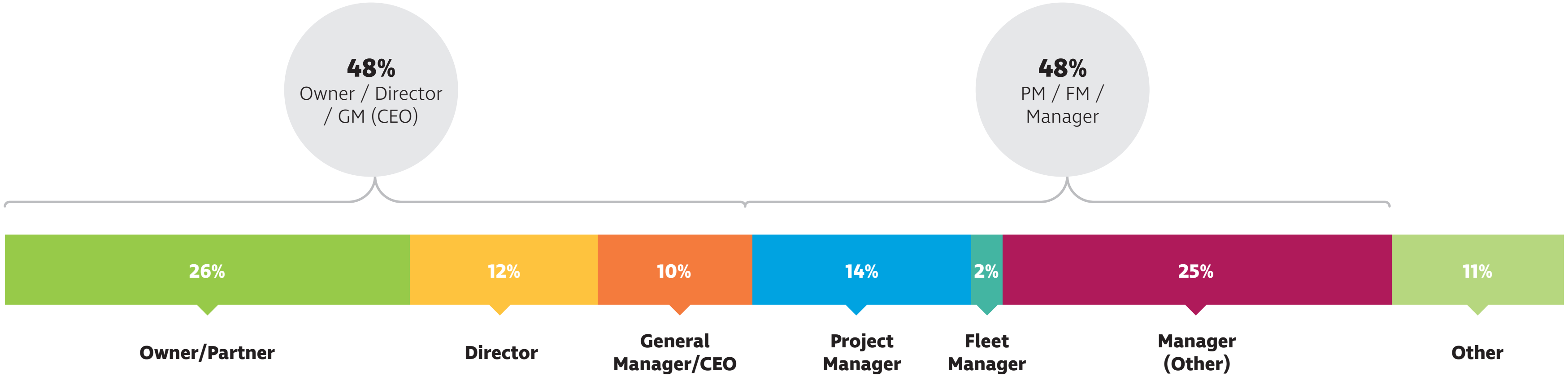
More than two thirds of businesses had experienced extreme weather impacting construction projects. Of these, a third had projects delayed/paused and a quarter had to make changes to contracts. Just less than half of businesses are involved in regional emergency or disaster response.

198 individuals
from the civil construction industry
took the online survey from
10 – 26 June 2023

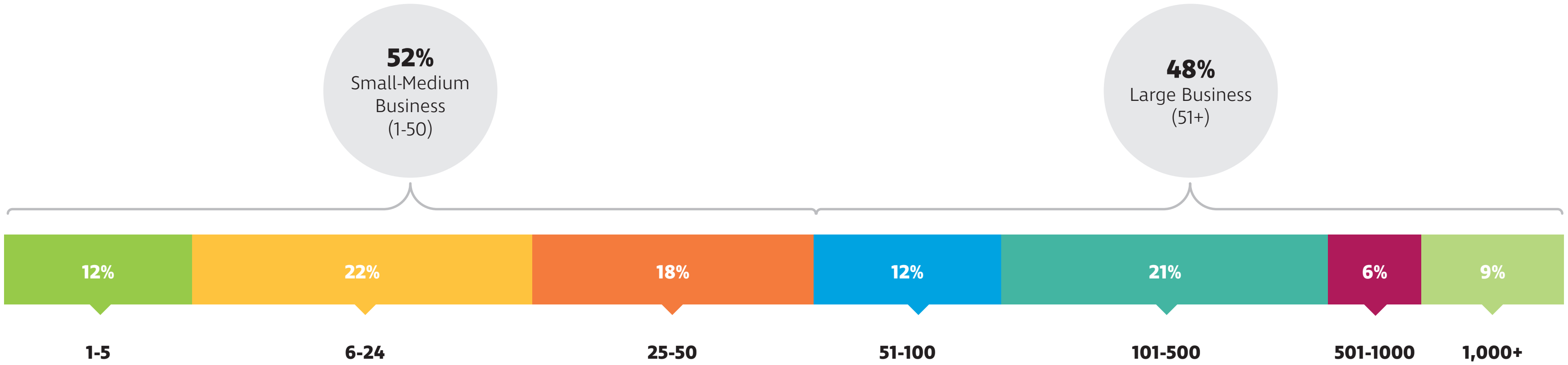


DEMOGRAPHICS AND METHODOLOGY

Position/Role



Number of People in Business



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

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.

Teletrac Navman aims to be the driving force behind the industries that transform and sustain our futures by offering simple and intelligent solutions that enhance efficiency, safety, and sustainability. As a connected mobility platform for industries that manage vehicle and equipment assets, Teletrac Navman simplifies the complex so that its customers can transform the way they work through cloud-based solutions that leverage artificial intelligence to unlock the power of operational insight. Teletrac Navman manages more than 700,000 vehicles and assets around the world. The company operates globally, with offices worldwide and headquarters in Orange County, CA.

Teletrac Navman is part of Vontier, a global industrial technology company uniting critical mobility and multi-energy technologies and solutions to meet the needs of a rapidly evolving, more connected mobility ecosystem. For more information visit www.TeletracNavman.com.

Reconstruction of the Bluff Town Wharf -
Photo provided by Brian Perry Civil

Repairing a section of State Highway washed out by flooding.
Photo provided by SouthRoads