

# Industry needs survey

## October 2016

A research study to define the building industry's information needs for the immediate and longer term



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## Background and context

- BRANZ and MBIE are interested in the **information needs** of the building and construction industry, and the **sources** of the information the industry does use
- TNS conducts a biennial survey of the industry on behalf of BRANZ
- Since 2014 BRANZ has partnered with MBIE on the survey
- The latest survey was conducted in October 2016 and collected 1127 responses from a range of industry participants

### Interpretation note:

While BRANZ and MBIE are the sponsors of this research and are acknowledged as such in the survey, it is important to note that **the survey assesses the perceived adequacy of the information available to the industry from any and all sources, not specifically from BRANZ or MBIE**

# 1

## Executive summary

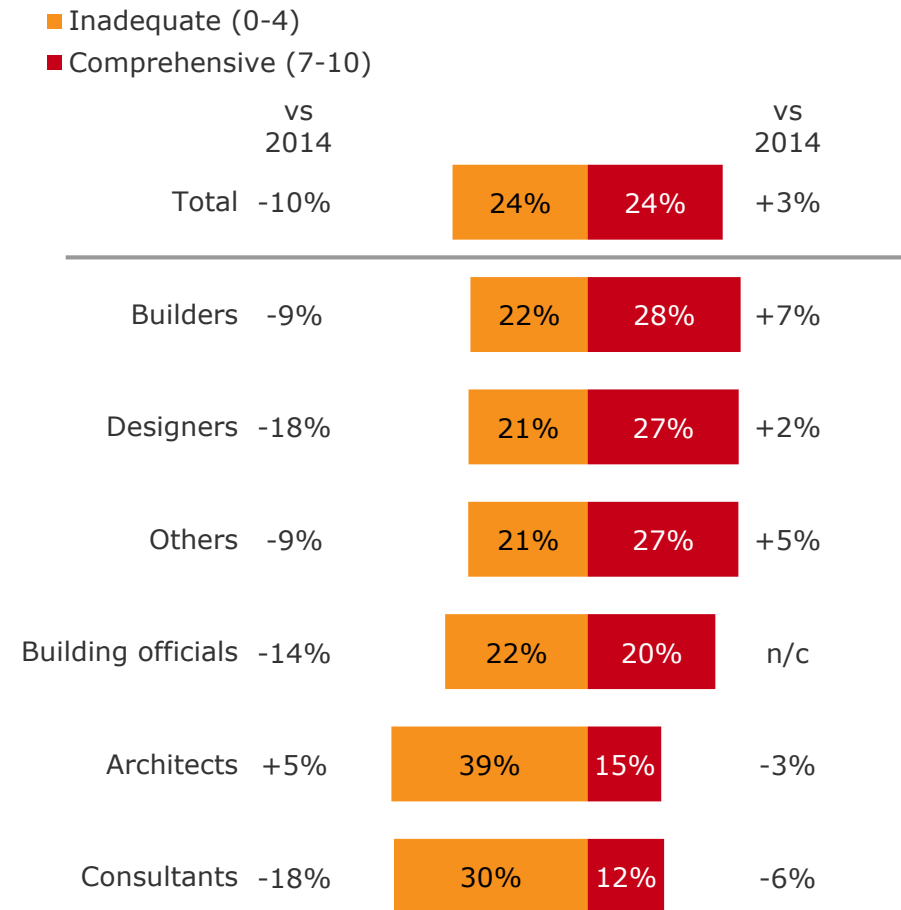


# Executive summary

- There is a perceived satisfactory level of knowledge overall, however less so for architects and consultants
- Overall there has been an improvement versus 2014
- Despite the improvements, a number of topics have a high level of perceived inadequate knowledge, e.g. meeting housing needs, building better cities/communities
- Builders and contractors rate the current level of knowledge the highest across all topic areas, and architects the lowest
- Weather tightness, housing affordability and the costs and benefits of alternative construction methods and materials are the most important detailed topics that require up to date information
- While many of the top topics are regarded as important across stakeholder groups, there are also key differences pointing to a need for targeted information strategies
- About a third of respondents rate BRANZ strongly in terms of selecting research projects to create new knowledge, and communicating knowledge
- Product specification websites are a key information source, but BRANZ is a popular choice for many subjects and is top choice for technical/good practice information
- Of all the information sources BRANZ is second only to manufacturers' trade literature in terms of being valued, and is rated highest amongst building officials

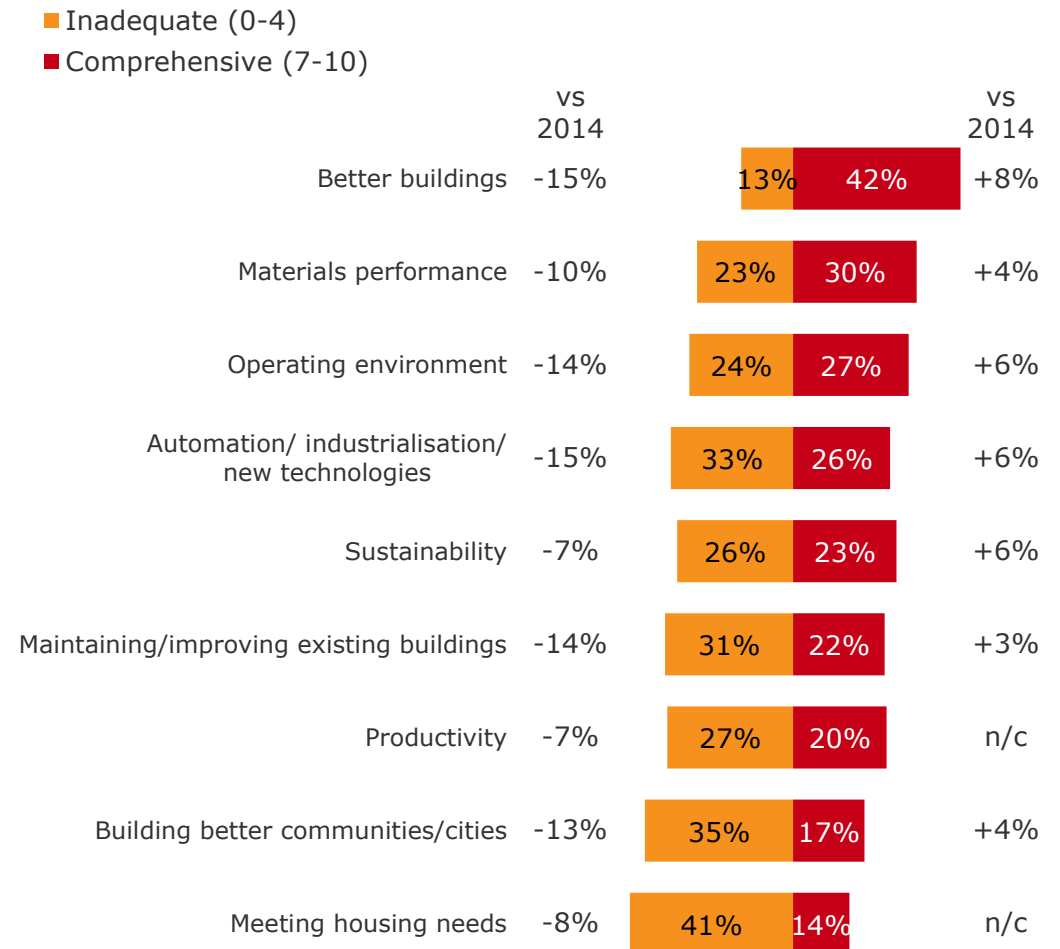
# Key findings: satisfactory level of knowledge overall but less so for architects and consultants, and overall improvement versus 2014 survey

- Overall the industry is equally split between those who find the current body of industry knowledge inadequate and those who find it comprehensive
- A quarter find it inadequate, with architects and consultants the least satisfied
- Most positively the levels of 'inadequate' knowledge has gone down dramatically across all groups, apart from architects
- Builders and designers are most positive



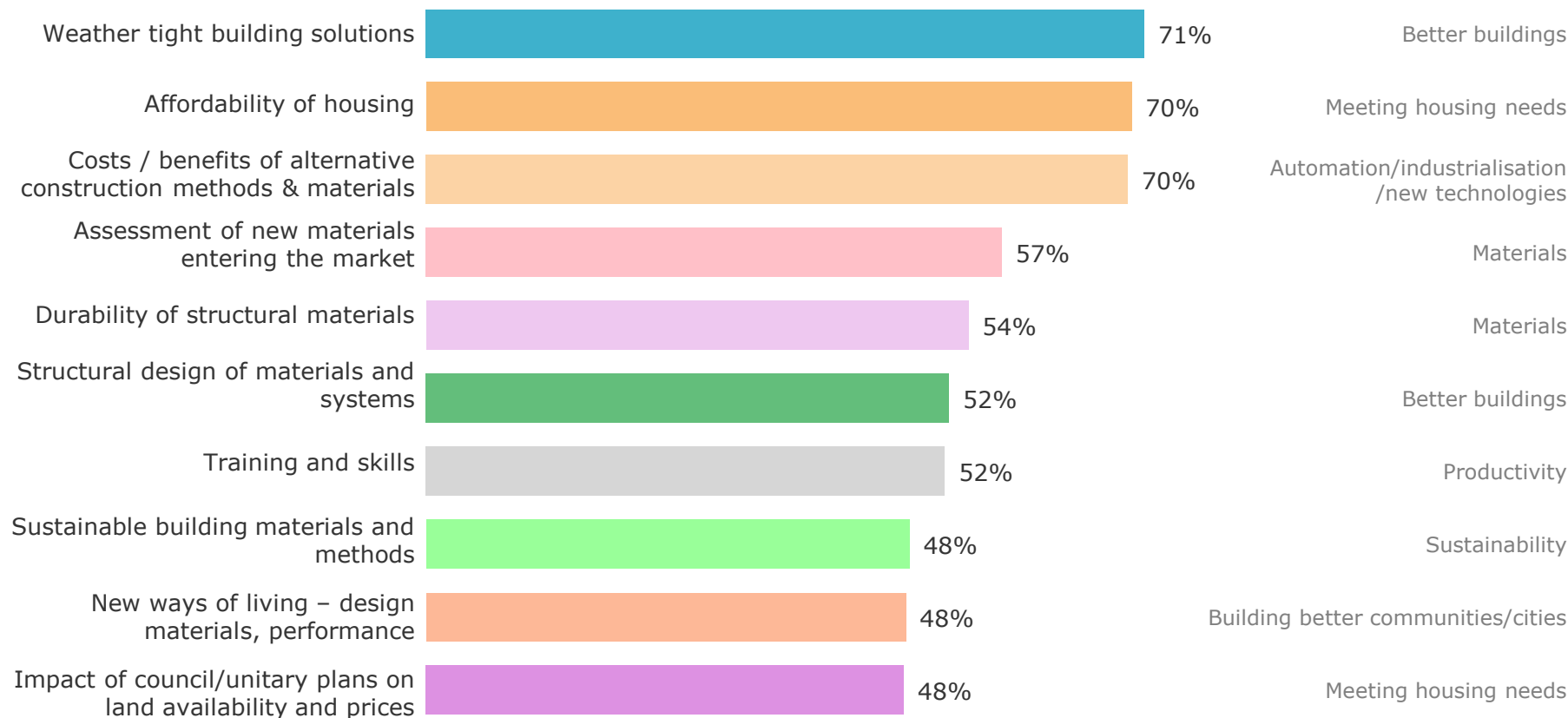
# Key findings: despite improvements, a number of topics have a high level of inadequate knowledge

- The reduction in 'inadequate' knowledge is across all topic areas
- However despite this all topic areas have a relatively high level of 'inadequate knowledge' being reported, especially for meeting housing needs



# Key findings: weather tightness, housing affordability and cost/benefits of alternative construction methods and materials are the most important detailed topics that require up to date information

## Top 10 areas overall ranked as most important to have up to date accurate information<sup>(1)</sup>



NOTES:

1. Sample size n = 1,127



# Key findings: while many of the top topics are regarded as important across stakeholder groups, there are also key differences pointing to a need for targeted information strategies

## Top 10 areas ranked as most important to have up to date accurate information, by group<sup>(1)</sup>

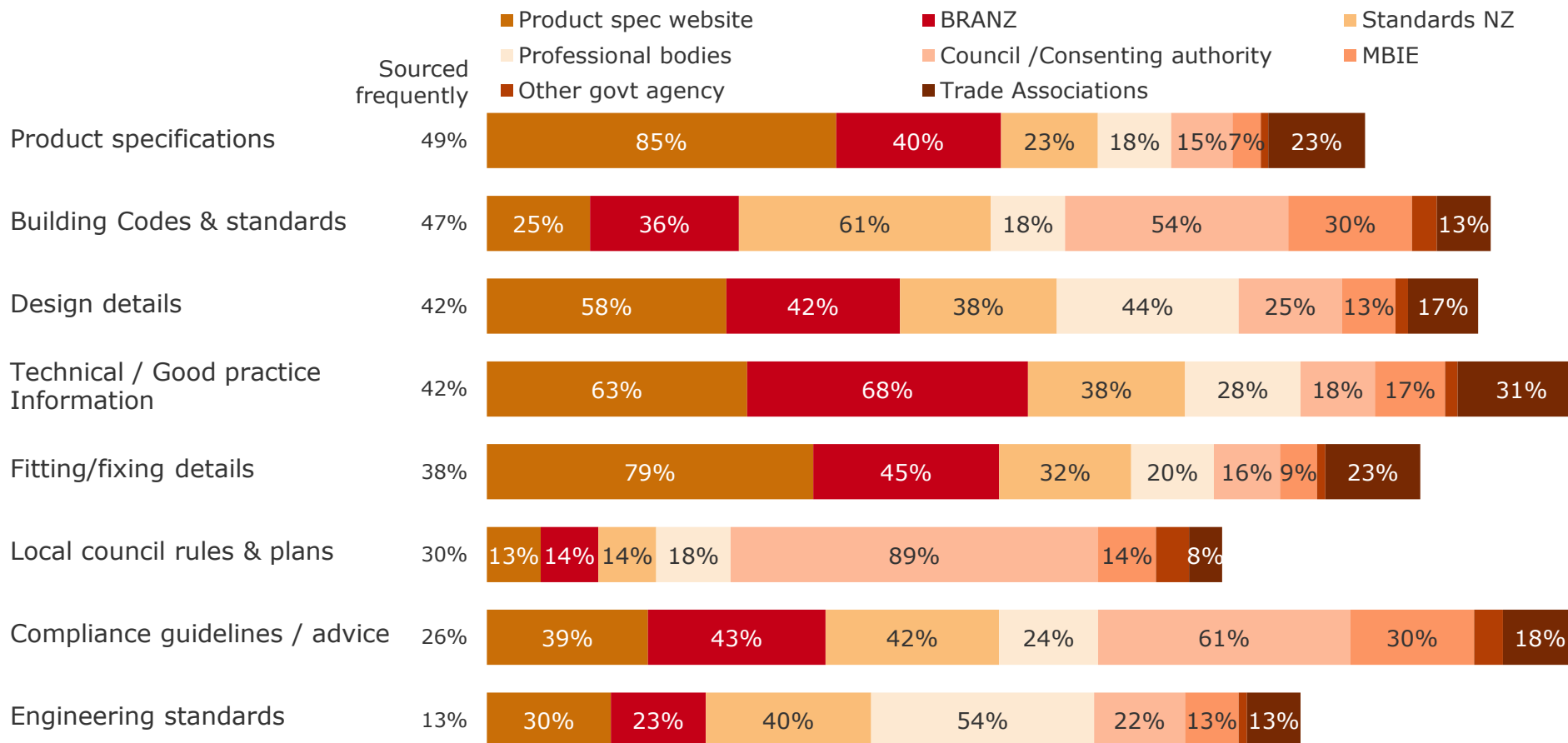
Builders / Contractors	Officials	Designers	Architects	Engineers / Consultants	Other
Weather tight building solutions	Affordability of housing	Weather tight building solutions	Costs / benefits of alternative construction methods & materials	Affordability of housing	Affordability of housing
Costs / benefits of alternative construction methods & materials	Weather tight building solutions	Affordability of housing	Weather tight building solutions	Costs / benefits of alternative construction methods & materials	Costs / benefits of alternative construction methods & materials
Affordability of housing	Assessment of new materials entering the market	Costs / benefits of alternative construction methods & materials	Assessment of new materials entering the market	Assessment of new materials entering the market	Weather tight building solutions
Durability of structural materials	Training and skills	Durability of structural materials	Affordability of housing	New ways of living – design materials, performance	Assessment of new materials entering the market
Structural design of materials and systems	Building Code system	Assessment of new materials entering the market	Prefabrication, off-site manufactured, Modular or panelised systems	Weather tight building solutions	Impact of council/unitary plans on land availability and prices
Assessment of new materials entering the market	Energy efficiency of buildings	Building Code system	New ways of living – design materials, performance	Training and skills	Energy efficiency of buildings
Training and skills	Costs / benefits of alternative construction methods & materials	New ways of living – design materials, performance	Cost / benefit of retrofit, renovation, re-use or replace'	Prefabrication, off-site manufactured, Modular or panelised systems	New ways of living – design materials, performance
Sustainable building materials and methods	Effect of legislation and regulations	Energy efficiency of buildings	Cost / benefits of building sustainably	Building Code system	Durability of structural materials
Impact of council/unitary plans on land availability and prices	Durability of structural materials	Sustainable building materials and methods	Acceptable levels of amenity, and quality vs cost'	Structural design of materials and systems	Training and skills
Cost / benefits of building sustainably	Sustainable building materials and methods	Structural design of materials and systems	Energy efficiency of buildings	Information for building owners to operate and maintain their buildings	Structural design of materials and systems

NOTES:

1. Sample sizes: Total n = 1,127, Builders n = 337, Building officials n = 131, Architects n = 124, Designers n = 193, Consultants n = 127, Others n = 215

# Key findings: product specification websites are a key information source, but BRANZ is a popular choice for many subjects

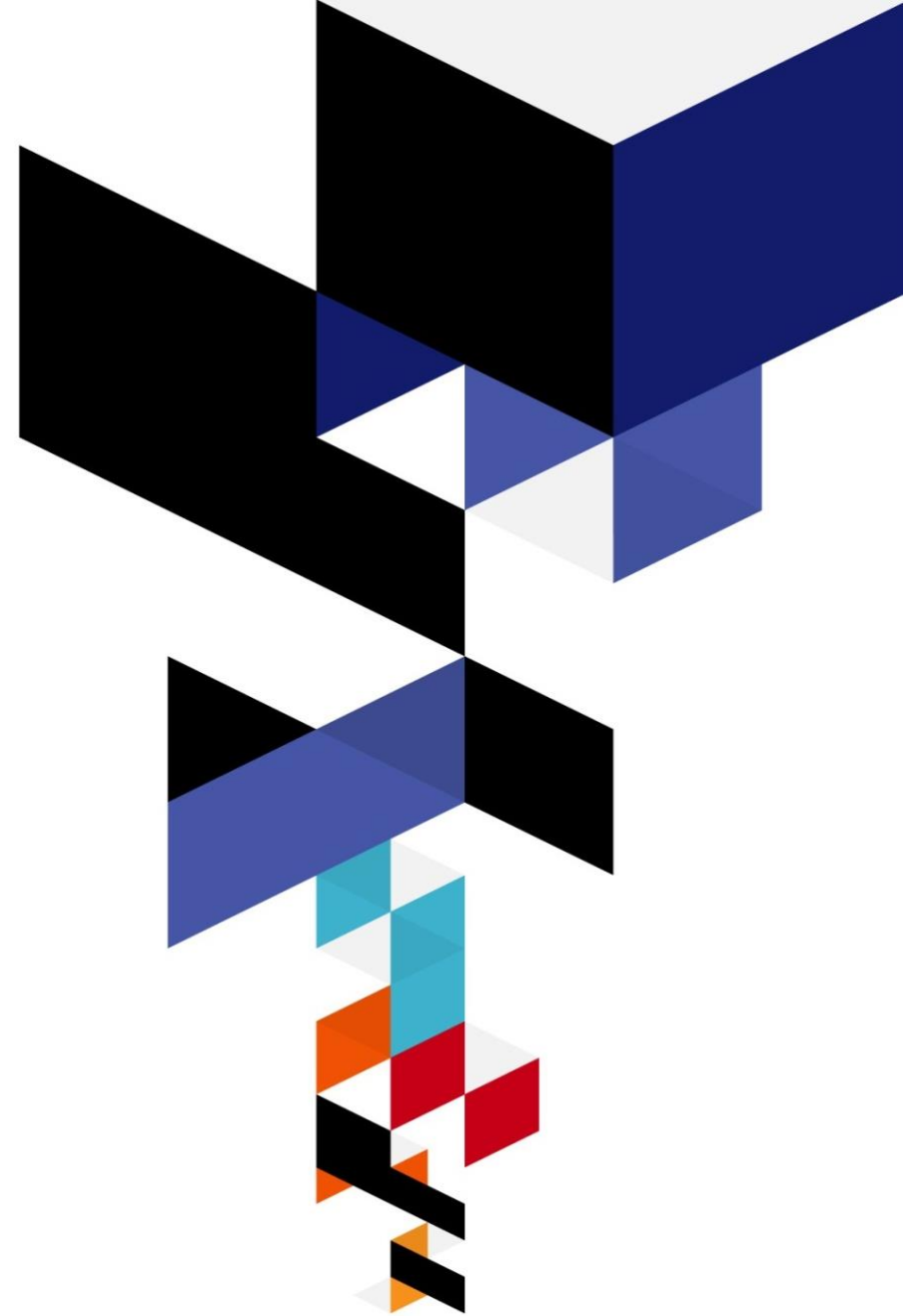
## Sources by information by topic<sup>(1)</sup>



NOTES:  
1. Sample size n = 1,127

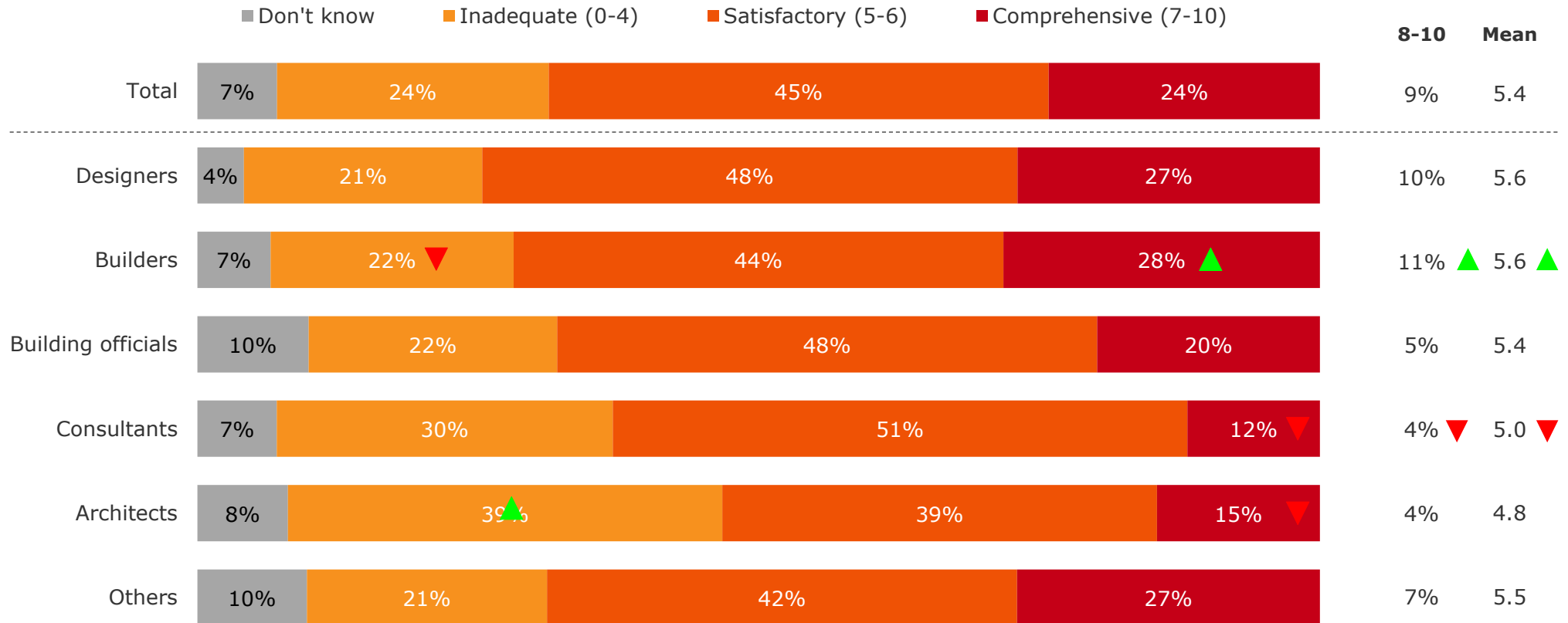
# 2

## Information needs for the immediate future



Overall the current body of industry knowledge is seen as satisfactory although a quarter find it inadequate, with designers and builders the most satisfied and architects and consultants the least satisfied...

### Overall adequacy of the current body of knowledge<sup>(1)(2)</sup>



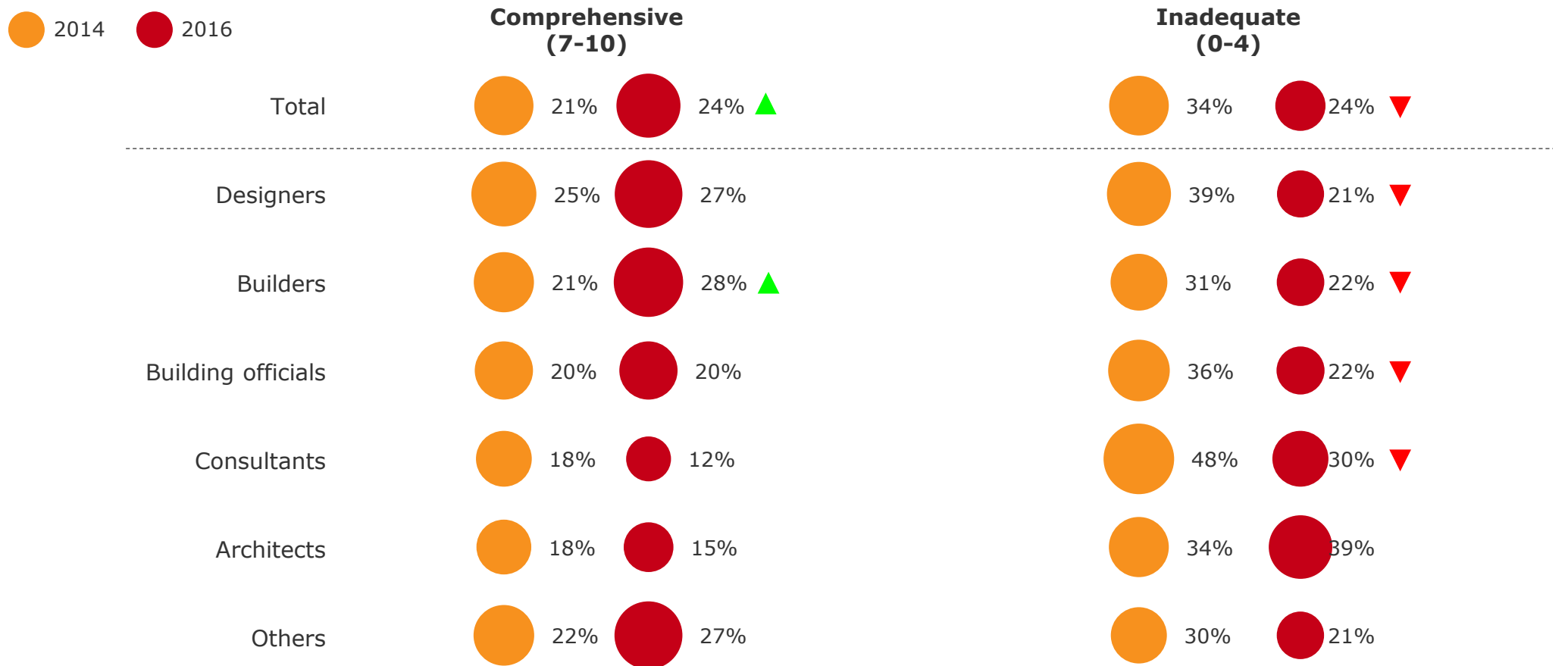
NOTES:

- Thinking overall about how adequate the current body of knowledge is across all major topic areas that we have discussed so far. How would you rate the overall adequacy of the entire body of knowledge across all of these topic areas?
- Sample sizes: Total n = 1,127, Builders n = 337, Building officials n = 131, Architects n = 124, Designers n = 193, Consultants n = 127, Others n = 215

▲ Significantly higher than total  
▼ Significantly lower than total

... which overall is a significant improvement compared to 2014

### Overall adequacy of the current body of knowledge, 2014 vs. 2016<sup>(1)</sup>



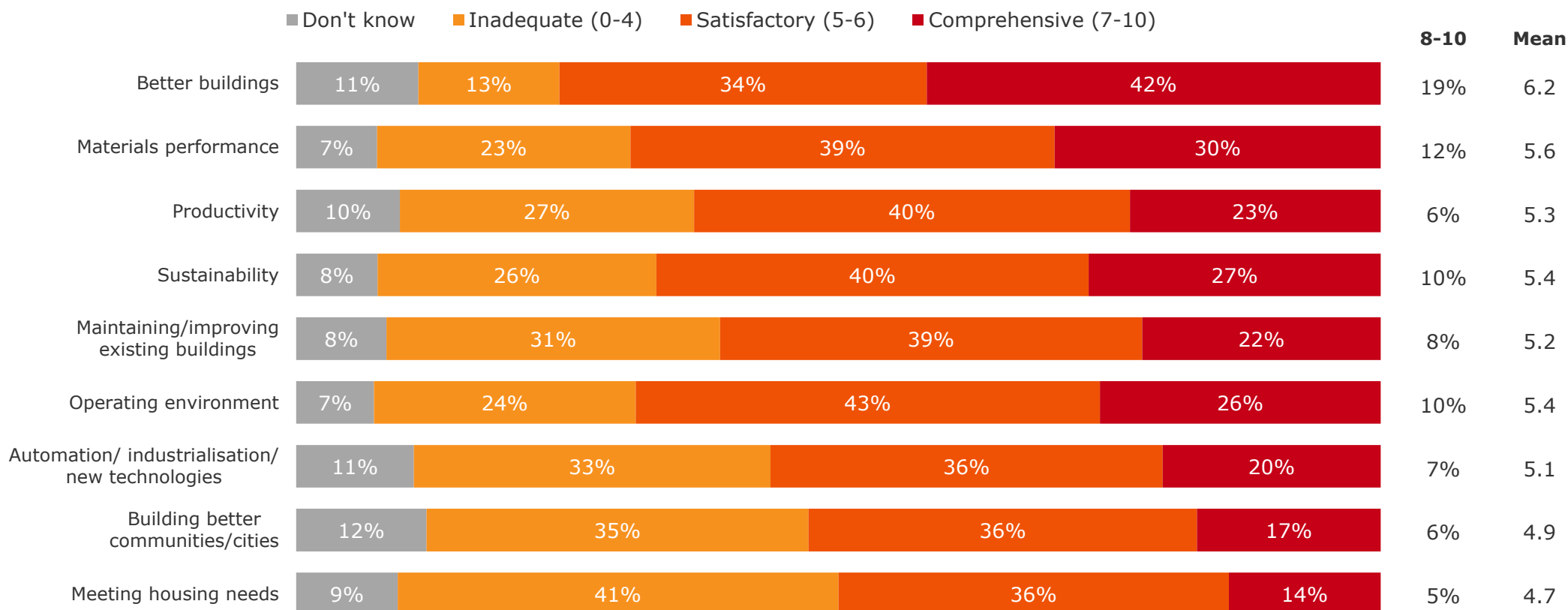
NOTES:

1. Sample sizes:
2. 2016: Total n = 1,127, Builders n = 337, Building officials n = 131, Architects n = 124, Designers n = 193, Consultants n = 127, Others n = 215  
2014: Total n = 1,077, Builders n = 379, Building officials n = 246, Architects n = 221, Designers n = 87, Consultants n = 61, Others n = 83

▲ Significantly higher than 2014  
▼ Significantly lower than 2014

Topics with lower adequacy include meeting housing needs, building better communities and automation / industrialisation / new technologies...

### Adequacy of the current body of knowledge by topic area<sup>(1)(2)</sup>

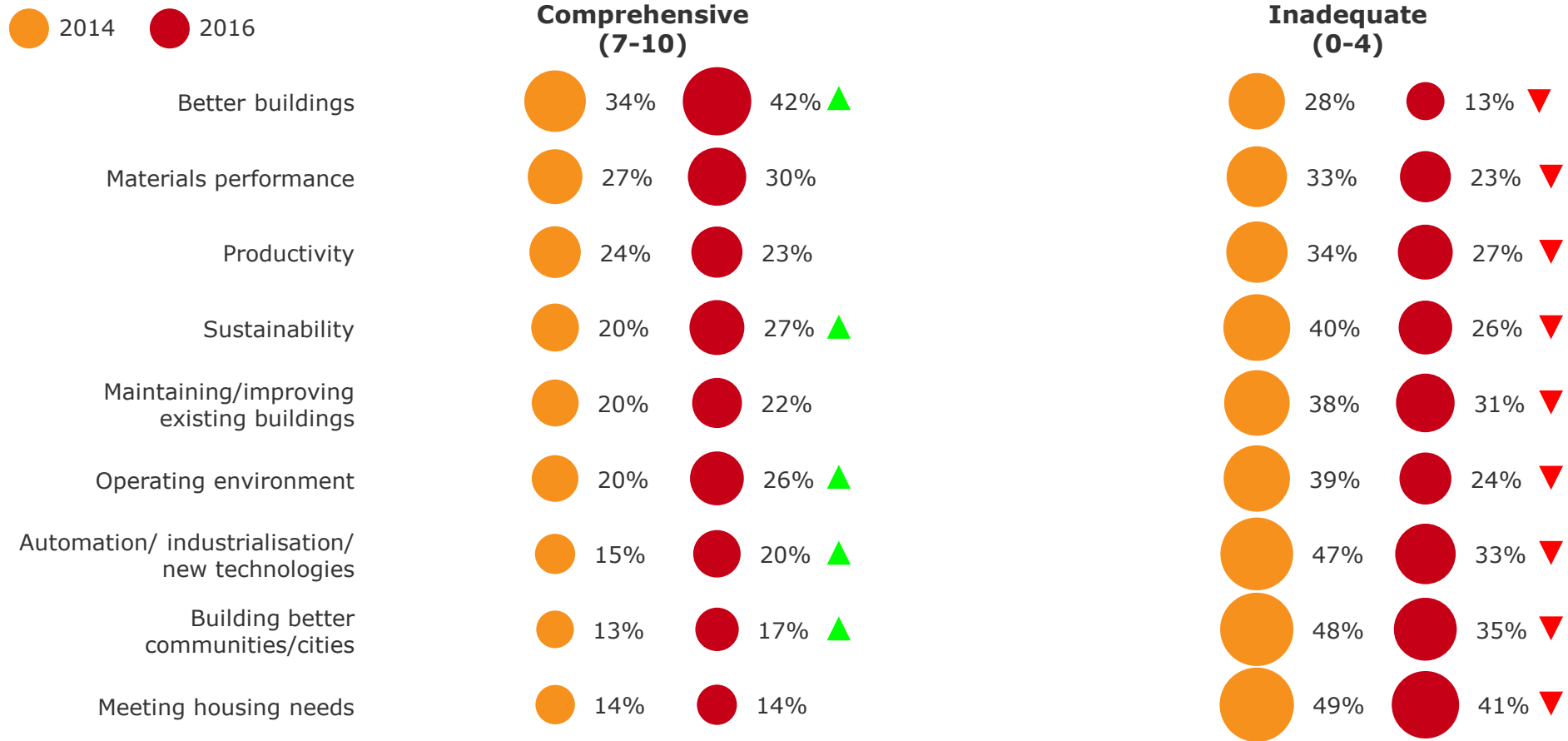


NOTES:

- Thinking overall about how adequate the current body of knowledge is across all major topic areas that we have discussed so far. How would you rate the overall adequacy of the entire body of knowledge across all of these topic areas?
- Sample size n = 1,127

... although adequacy in all topic areas has improved since 2014

### Overall adequacy of the current body of knowledge, 2014 vs. 2016<sup>(1)</sup>



NOTES:  
1. Sample size 2016 n = 1,127, 2014 n = 1027

▲ Significantly higher than 2014  
▼ Significantly lower than 2014

# Builders and contractors rate the current level of knowledge the highest across all topic areas, and architects the lowest

## Adequacy of the current body of knowledge, by topic area and group<sup>(1)</sup>

	Builders / Contractors	Officials	Designers	Architects	Engineers / Consultants	Other
Better buildings	6.3 ▲	6.1	6.1	5.6 ▼	5.7 ▼	6.3
Materials performance	5.7 ▲	5.5	5.8	5.2	5.2 ▼	5.7
Productivity	5.4 ▲	5.2	5.1	4.5 ▼	4.9 ▼	5.4
Sustainability	5.5 ▲	5.2	5.4	4.9 ▼	5.2	5.6
Maintaining/improving existing buildings	5.3 ▲	5.1	5.1	4.5 ▼	4.9	5.4
Operating environment	5.6 ▲	5.1	5.6	4.7 ▼	5.0 ▼	5.6
Automation/industrialisation/new technologies	5.2 ▲	4.9	5.0	4.2 ▼	4.9	5.3
Building better communities/cities	5.0 ▲	4.8	4.8	4.2 ▼	4.7	5.0
Meeting housing needs	4.8 ▲	4.7	4.7	4.1 ▼	4.2 ▼	5.0 ▲

NOTES:

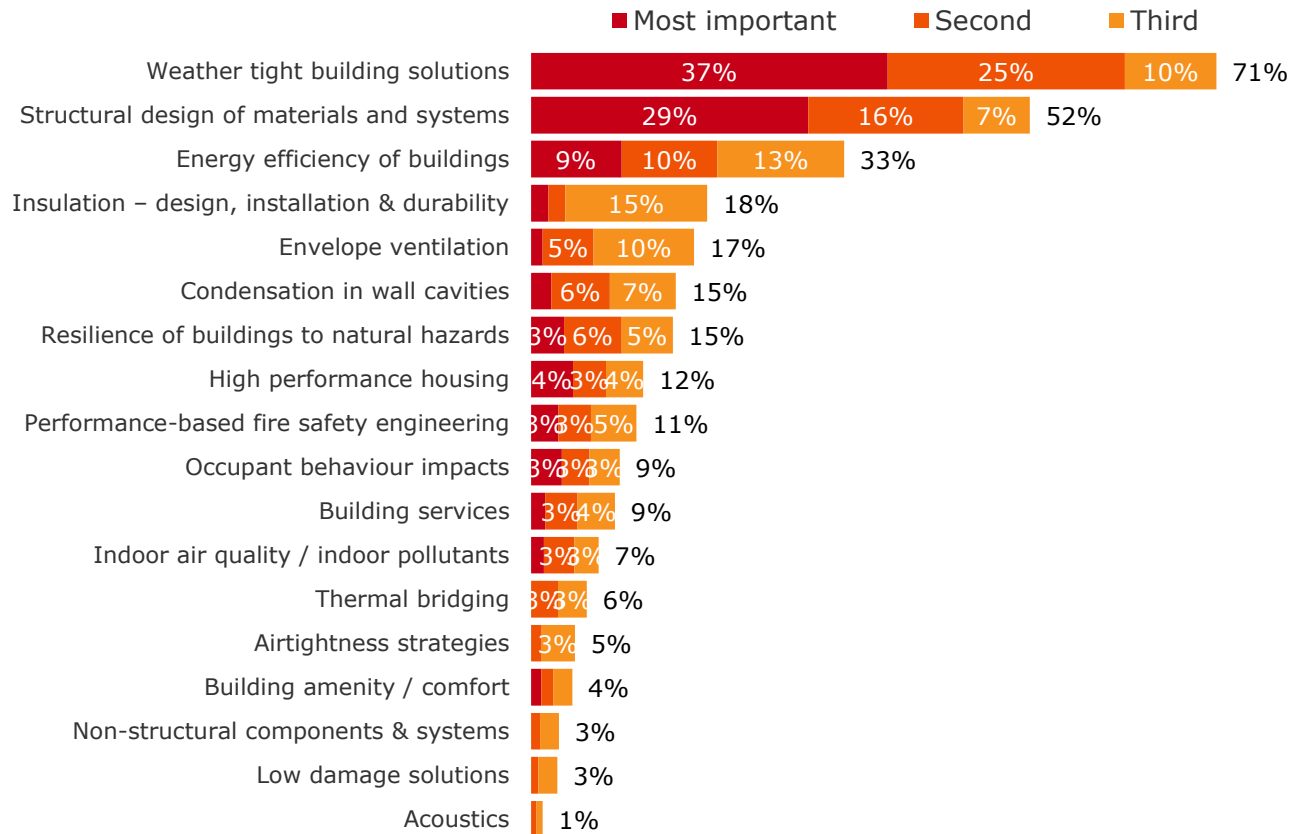
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▲ Significantly higher than total  
▼ Significantly lower than total



Within better buildings, weather tight building solutions, structural design of materials, and energy efficiency are the key topics...

**Better buildings: importance of having up to date, accurate information<sup>(1)(2)</sup>**



**Other important aspects**

- Low cost / affordable housing strategies
- Design implications of climate change and sea level rises
- Health and Safety processes and procedures
- Building regulation updates

NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important
2. Sample size n = 1,127



... particularly to builders and building officials

**Better buildings: importance of having information by group<sup>(1)(2)</sup>**

	Total	Builders / Contractors	Officials	Designers	Architects	Engineers / Consultants	Others
Weather tight building solutions	71%	77%	67%	77%	73%	56%	61%
Structural design of materials and systems	52%	57%	47%	48%	33%	44%	49%
Energy efficiency of buildings	33%	35%	26%	37%	31%	24%	35%
Insulation – design, installation & durability	18%	27%	18%	17%	16%	20%	23%
Envelope ventilation	17%	19%	10%	23%	18%	13%	13%
Condensation in wall cavities	15%	12%	15%	19%	26%	23%	12%
Resilience of buildings to natural hazards	15%	12%	22%	13%	14%	21%	21%
High performance housing	12%	9%	9%	12%	15%	17%	14%
Performance-based fire safety engineering	11%	8%	33%	11%	12%	14%	16%
How occupant behaviour affects building performance	9%	7%	14%	6%	8%	13%	14%
Building services	9%	9%	15%	10%	5%	8%	12%
Indoor air quality / indoor pollutants	7%	7%	8%	5%	8%	9%	4%
Thermal bridging	6%	6%	2%	6%	10%	6%	4%
Airtightness strategies	5%	4%	5%	5%	8%	9%	3%
Building amenity / comfort	4%	3%	4%	5%	11%	6%	4%
Non-structural components & systems	3%	2%	3%	1%	5%	5%	4%
Low damage solutions	3%	1%	1%	1%	4%	9%	3%
Acoustics	1%	0%	2%	2%	2%	2%	6%

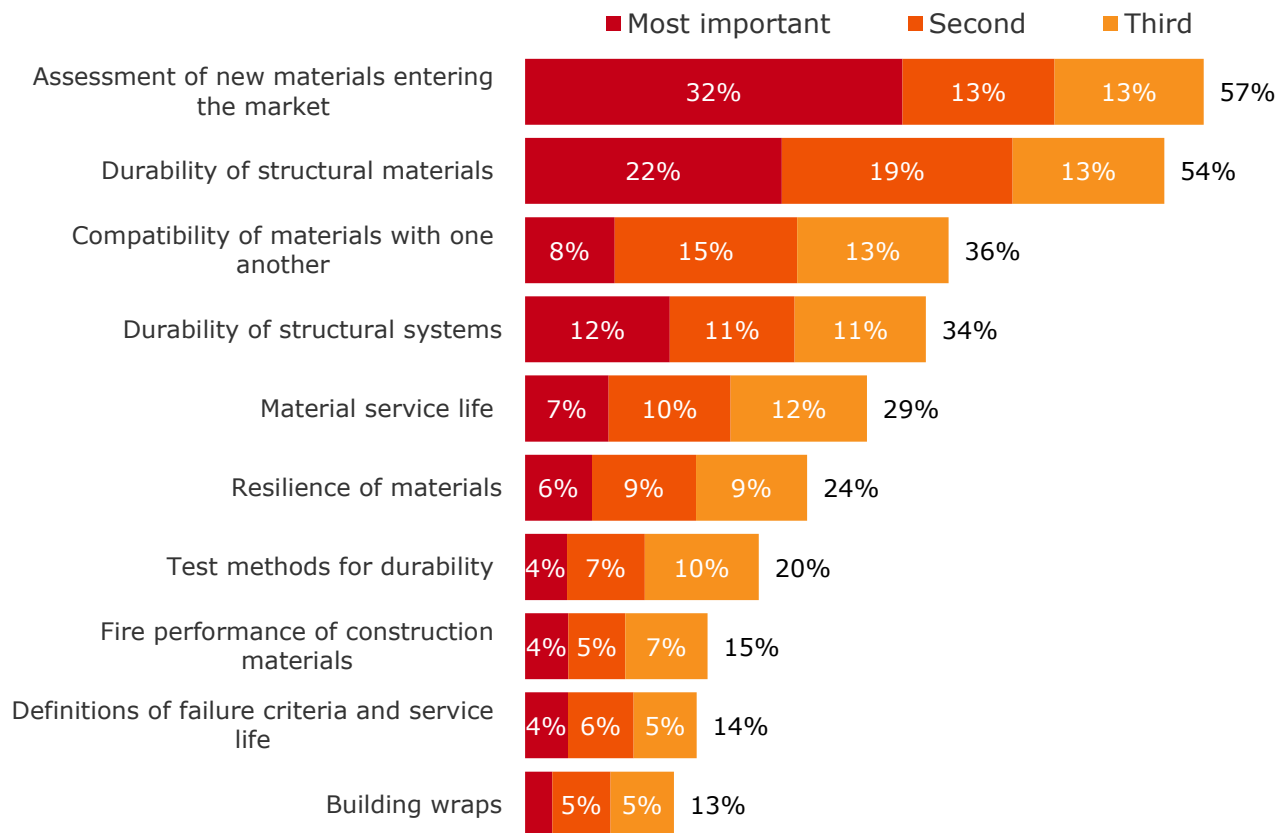
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# Within materials performance assessment of new materials and durability are key...

## Materials performance: importance of having up to date, accurate information<sup>(1)(2)</sup>



### Other important aspects

- New building methods and products available
- Expected life expectancy of materials/products
- Identification of which materials/products can be used in specific areas (sometimes materials are 'wanted' but not suited for a certain environment)
- To have a rigorous assessment of materials imported into the New Zealand market; the report should clarify how the material can be used in NZ and all limitations clearly highlighted

NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important
2. Sample size n = 1,127

... the former especially to officials and architects, the latter to builders

**Materials performance: importance of having information by group<sup>(1)(2)</sup>**

	Total	Builders / Contractors	Officials	Designers	Architects	Engineers / Consultants	Other
Assessment of new materials entering the market	57%	55%	66%	55%	67%	59%	57%
Durability of structural materials	54%	60%	48%	55%	31%	43%	50%
Compatibility of materials with one another	36%	38%	30%	36%	40%	29%	30%
Durability of structural systems	34%	32%	44%	38%	32%	36%	36%
Material service life	29%	28%	22%	26%	35%	31%	26%
Resilience of materials	24%	23%	12%	27%	34%	23%	23%
Test methods for durability	20%	21%	20%	15%	8%	17%	25%
Fire performance of construction materials	15%	12%	33%	18%	16%	20%	20%
Definitions of failure criteria and service life	14%	9%	15%	9%	22%	31%	16%
Building wraps	13%	14%	8%	13%	10%	7%	14%

NOTES:

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2. Sample sizes: Total n = 1,127, Builders n = 337, Building officials n = 131, Architects n = 124, Designers n = 193, Consultants n = 127, Others n = 215



# Within productivity training and skills are key...

## Productivity: importance of having up to date, accurate information<sup>(1)(2)</sup>



NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important
2. Sample size n = 1,127

### Other important aspects

- Understanding of costs and benefits and timelines of projects
- Maintaining quality supply at affordable costs
- Management teams who control sites need to have construction experience as too often their decisions are based only on finance and timing.
- Optimising communication systems and methods within teams
- How to avoid 'tight deadlines'; understanding the overall level of documentation against timelines and how to spread out the work flow to maintain consistency

... particularly to officials and engineers/consultants

**Productivity: importance of having information by group<sup>(1)(2)</sup>**

	Total	Builders / Contractors	Officials	Designers	Architects	Engineers / Consultants	Other
Training and skills	52%	53%	64%	47%	31%	55%	49%
Understanding client requirements and expectations re. time and quality	40%	42%	32%	43%	42%	31%	37%
Quality / time / cost trade off	33%	34%	17%	26%	44%	30%	27%
Managing suppliers and sub-contractors	25%	30%	13%	17%	13%	15%	25%
Business management	24%	30%	11%	16%	19%	13%	21%
Effectiveness of interactions between project participants / teams	23%	19%	32%	26%	34%	31%	20%
Understanding of industry structures and processes	22%	19%	37%	29%	22%	27%	24%
Predicting future workloads (forecasts)	14%	12%	18%	15%	15%	13%	23%
Measures of productivity	12%	11%	16%	8%	13%	17%	11%
Understanding demand	10%	9%	15%	11%	4%	15%	13%
Working within site coverage rules and tight sites	9%	10%	5%	24%	10%	6%	8%
Factors affecting overheads	9%	10%	8%	7%	9%	7%	8%
Procurement options	8%	5%	7%	8%	15%	11%	13%
Industry demographics	5%	4%	10%	2%	6%	4%	6%
Development of pipelines / supply chains	4%	3%	2%	3%	5%	6%	10%

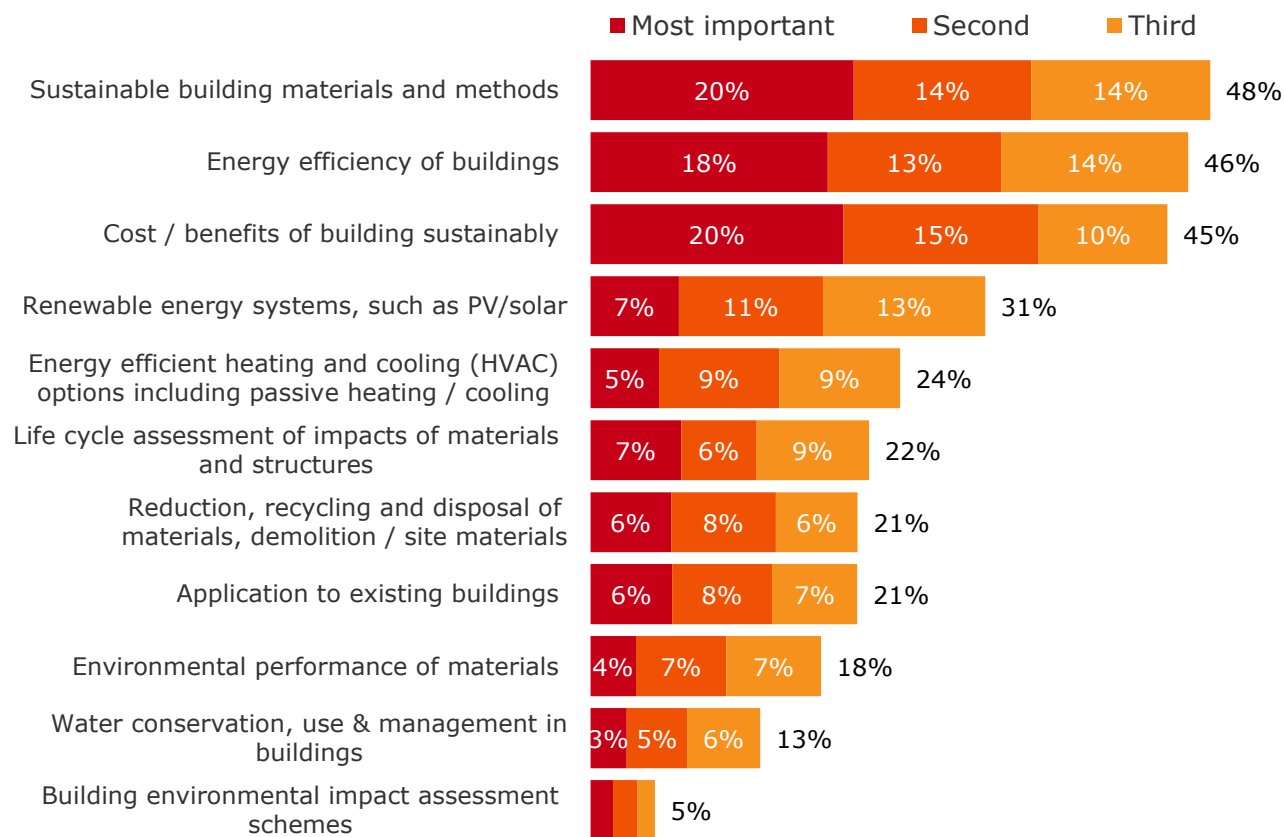
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# Sustainable building materials and its cost/benefits and energy efficient buildings are key topics

## Sustainability: importance of having up to date, accurate information<sup>(1)(2)</sup>



### Other important aspects

- Research that demonstrates the benefits of using 'sustainable' materials
- Better education of Architects to give them ways to design sustainable and user-friendly buildings
- Better information about the benefits of achieving higher standards, rather than just the minimum standard of the NZBC
- Waste minimisation through advanced construction technologies such as offshore construction
- Use of local materials vs. exported

NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important
2. Sample size n = 1,127

While builders and designers are most interested in sustainable building materials and methods, architects are more focused on cost/benefit trade-offs

**Sustainability: importance of having information by group<sup>(1)(2)</sup>**

	Total	Builders / Contractors	Officials	Designers	Architects	Engineers / Consultants	Other
Sustainable building materials and methods	48%	52%	48%	50%	37%	41%	41%
Energy efficiency of buildings	46%	46%	56%	51%	48%	42%	51%
Cost / benefits of building sustainably	45%	47%	34%	36%	56%	35%	46%
Renewable energy systems, such as PV/solar	31%	33%	32%	30%	20%	30%	23%
Energy efficient heating and cooling (HVAC) options including passive heating / cooling	24%	24%	27%	26%	18%	28%	23%
Life cycle assessment of impacts of materials and structures	22%	17%	17%	22%	38%	30%	29%
Reduction, recycling and disposal of materials, demolition / site materials'	21%	22%	21%	16%	19%	19%	19%
Application to existing buildings	21%	16%	26%	21%	28%	33%	20%
Environmental performance of materials	18%	17%	15%	21%	17%	20%	22%
Water conservation, use & management in buildings	13%	14%	14%	17%	9%	11%	16%
Building environmental impact assessment schemes	5%	5%	8%	6%	7%	3%	7%

NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important

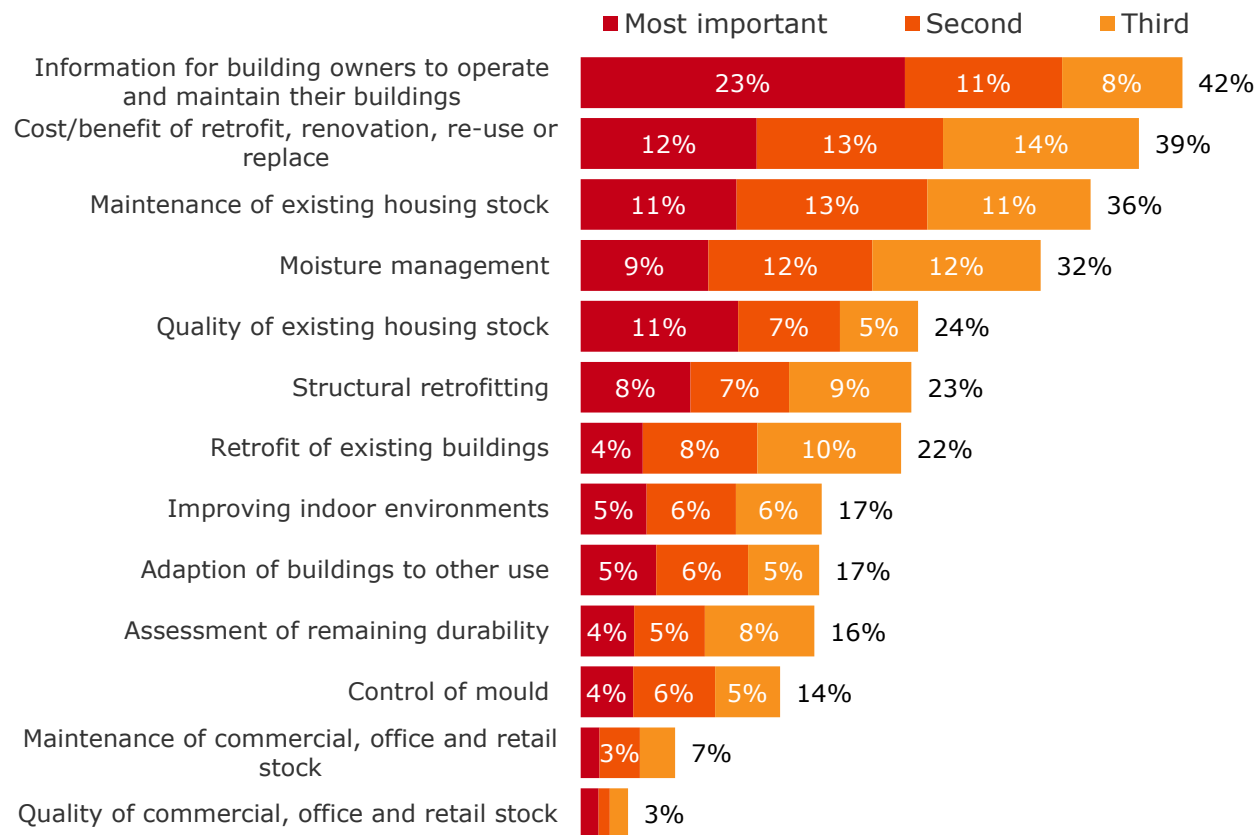
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# Maintenance information, cost/benefits of renovating and maintaining existing housing stock are key topics

## Maintaining/improving existing buildings: importance of having up to date, accurate information<sup>(1)(2)</sup>



### Other important aspects

- Education on cost returns of upgrading/improving existing houses
- Information of interventions which have the most impact on improving earthquake resilience for a given building
- Educating homeowners on general living habits and easy maintenance of their homes and the best strategies on avoiding heat loss
- A guide on how to assess and repair leaky homes
- Information on the consequences of not managing moisture
- Making landlords more accountable for renting substandard properties

NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important
2. Sample size n = 1,127

# Building officials are particularly focused on maintaining existing buildings

## Maintaining/improving existing buildings: importance of having information by group<sup>(1)(2)</sup>

	Total	Builders / Contractors	Officials	Designers	Architects	Engineers / Consultants	Other
Information for building owners to operate and maintain their buildings	42%	42%	44%	34%	36%	43%	46%
Cost/benefit of retrofit, renovation, re-use or replace	39%	37%	44%	42%	57%	37%	40%
Maintenance of existing housing stock	36%	41%	34%	28%	19%	24%	38%
Moisture management	32%	32%	35%	37%	30%	31%	33%
Quality of existing housing stock	24%	26%	23%	19%	19%	20%	24%
Structural retrofitting	23%	24%	18%	21%	19%	26%	18%
Retrofit of existing buildings	22%	21%	22%	29%	27%	26%	22%
Improving indoor environments	17%	16%	14%	23%	19%	19%	16%
Adaption of buildings to other use	17%	15%	20%	20%	32%	17%	14%
Assessment of remaining durability	16%	15%	14%	21%	17%	21%	16%
Control of mould	14%	14%	15%	13%	10%	16%	12%
Maintenance of commercial, office and retail stock	7%	5%	8%	5%	6%	9%	11%
Quality of commercial, office and retail stock	3%	3%	4%	1%	4%	6%	4%

NOTES:

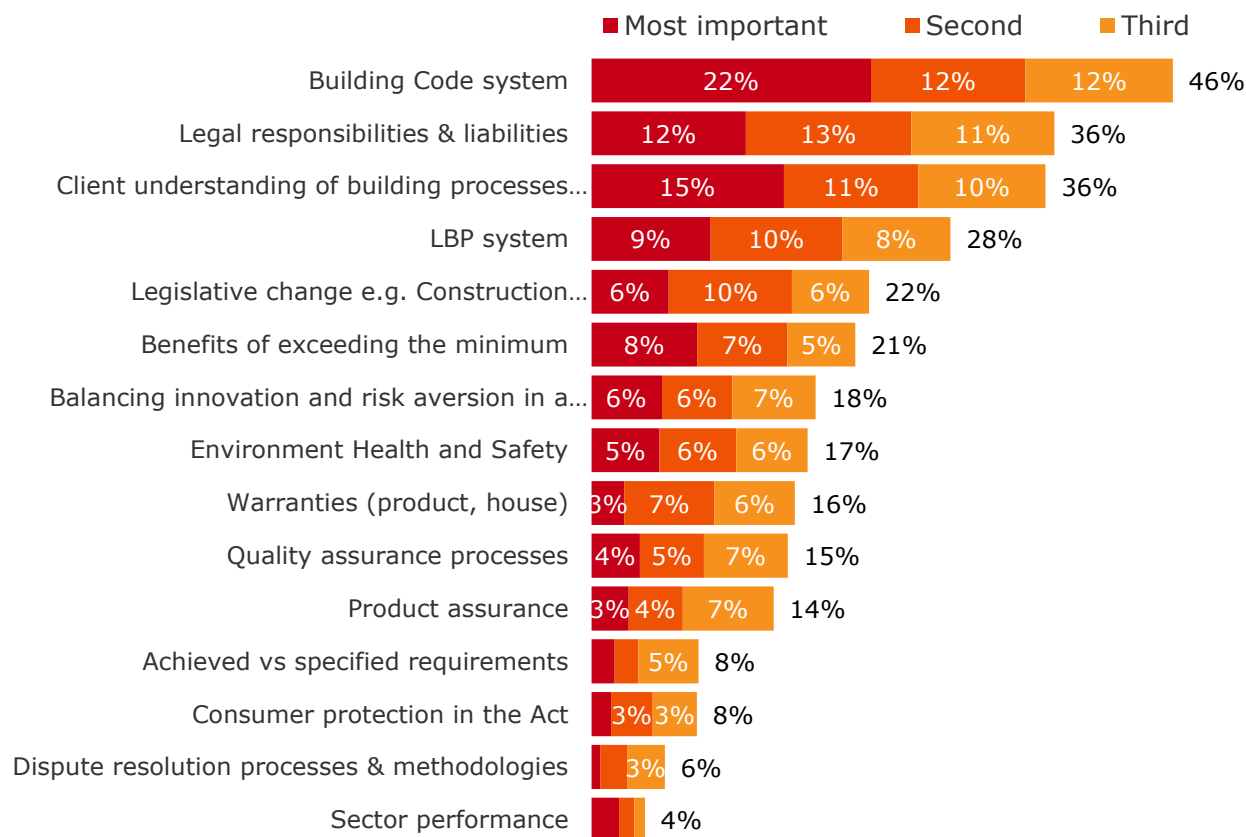
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# The building code system is key within the topic of the operating environment...

## Operating environment: importance of having up to date, accurate information<sup>(1)(2)</sup>



### Other important aspects

- A better understanding of Acts, Codes and Standards and how they all interlink
- Simplify consenting paperwork and cut down on bureaucracy; systems should be transparent and understandable
- Tightening up on product assurances and educating clients/customers/designers as to what it all means
- Integration of different industry sectors to achieve efficiencies, quality and performance

NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important
2. Sample size n = 1,127

... particularly to officials and designers

**Operating environment: importance of having information by group<sup>(1)(2)</sup>**

	Total	Builders / Contractors	Officials	Designers	Architects	Engineers / Consultants	Other
Building Code system	46%	44%	58%	54%	45%	48%	44%
Legal responsibilities & liabilities	36%	38%	35%	32%	32%	34%	33%
Client understanding of building processes and choices, and of quality to cost trade offs	36%	37%	28%	35%	39%	34%	30%
LBP system	28%	36%	21%	27%	8%	16%	20%
Legislative change e.g. Construction Contracts Act	22%	22%	14%	22%	21%	22%	24%
Benefits of exceeding the minimum	21%	18%	32%	26%	31%	25%	17%
Balancing innovation and risk aversion in a consenting regime	18%	13%	25%	25%	40%	22%	15%
Environment Health and Safety	17%	18%	9%	9%	12%	15%	24%
Warranties (product, house)	16%	19%	11%	12%	12%	6%	20%
Quality assurance processes	15%	13%	17%	10%	14%	23%	22%
Product assurance	14%	13%	21%	13%	18%	13%	18%
Achieved vs specified requirements	8%	7%	6%	16%	10%	13%	7%
Consumer protection in the Act	8%	8%	9%	7%	4%	9%	11%
Dispute resolution processes & methodologies	6%	6%	5%	2%	4%	6%	5%
Sector performance	4%	4%	7%	4%	2%	5%	8%

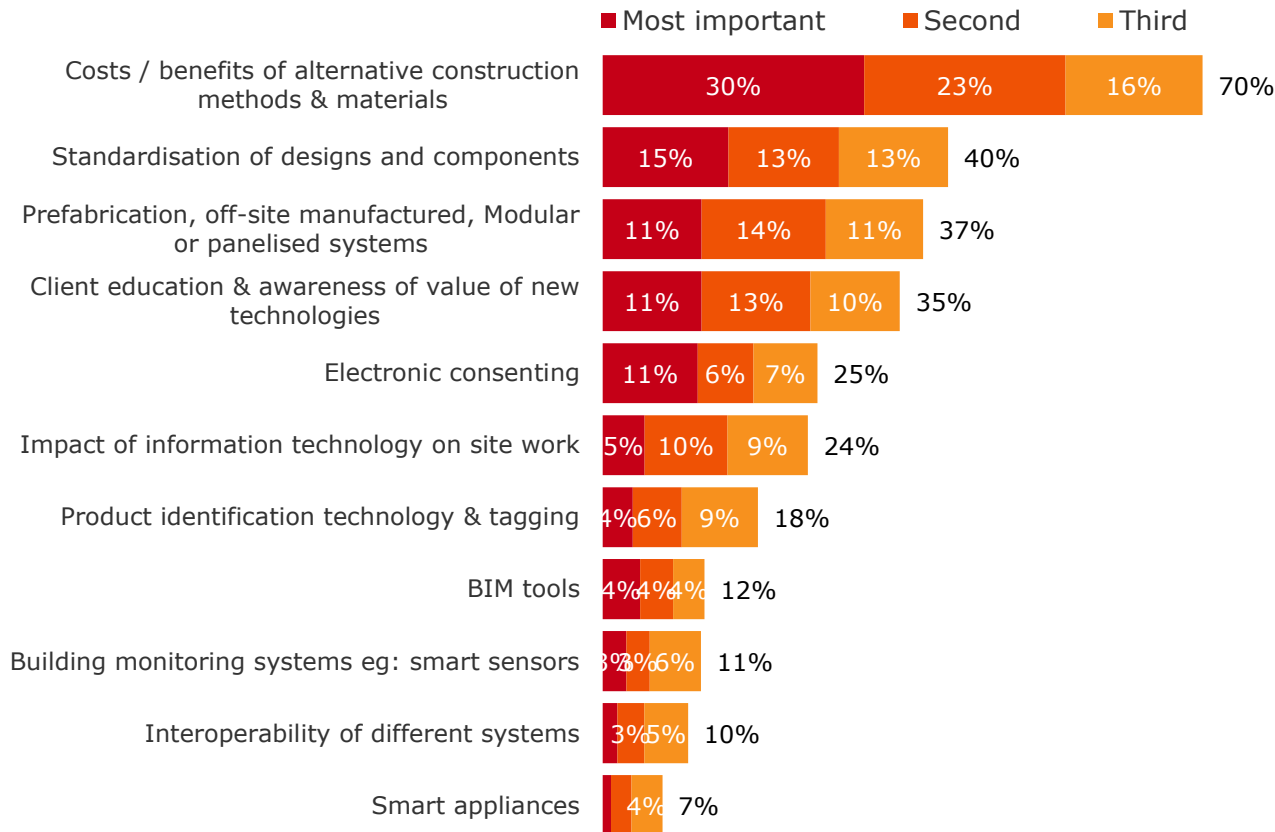
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# The costs/benefits of alternative construction methods and materials is a key topic...

## Automation/industrialisation/new technologies: importance of having up to date, accurate information<sup>(1)(2)</sup>



### Other important aspects

- Better education on technologies, whilst still maintaining fitness for purpose
- Smart systems that control ventilation when internal moisture levels exceed a certain level
- More accurate material labelling to identify material properties and origins

NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important
2. Sample size n = 1,127

... particularly for builders and architects

**Automation/industrialisation/new technologies: importance of having information by group<sup>(1)(2)</sup>**

	Total	Builders / Contractors	Officials	Designers	Architects	Engineers / Consultants	Other
Costs / benefits of alternative construction methods & materials	70%	74%	53%	61%	75%	59%	67%
Standardisation of designs and components	40%	39%	45%	34%	34%	43%	46%
Prefabrication, off-site manufactured, Modular or panelised systems	37%	30%	41%	40%	58%	50%	43%
Client education & awareness of value of new technologies	35%	35%	21%	28%	34%	35%	35%
Electronic consenting	25%	25%	35%	37%	22%	24%	21%
Impact of information technology on site work	24%	29%	14%	14%	13%	14%	21%
Product identification technology & tagging	18%	18%	29%	19%	9%	22%	12%
BIM tools	12%	8%	19%	22%	25%	16%	14%
Building monitoring systems eg: smart sensors	11%	13%	12%	7%	10%	9%	10%
Interoperability of different systems	10%	9%	18%	18%	10%	10%	12%
Smart appliances	7%	7%	4%	6%	2%	9%	10%

NOTES:

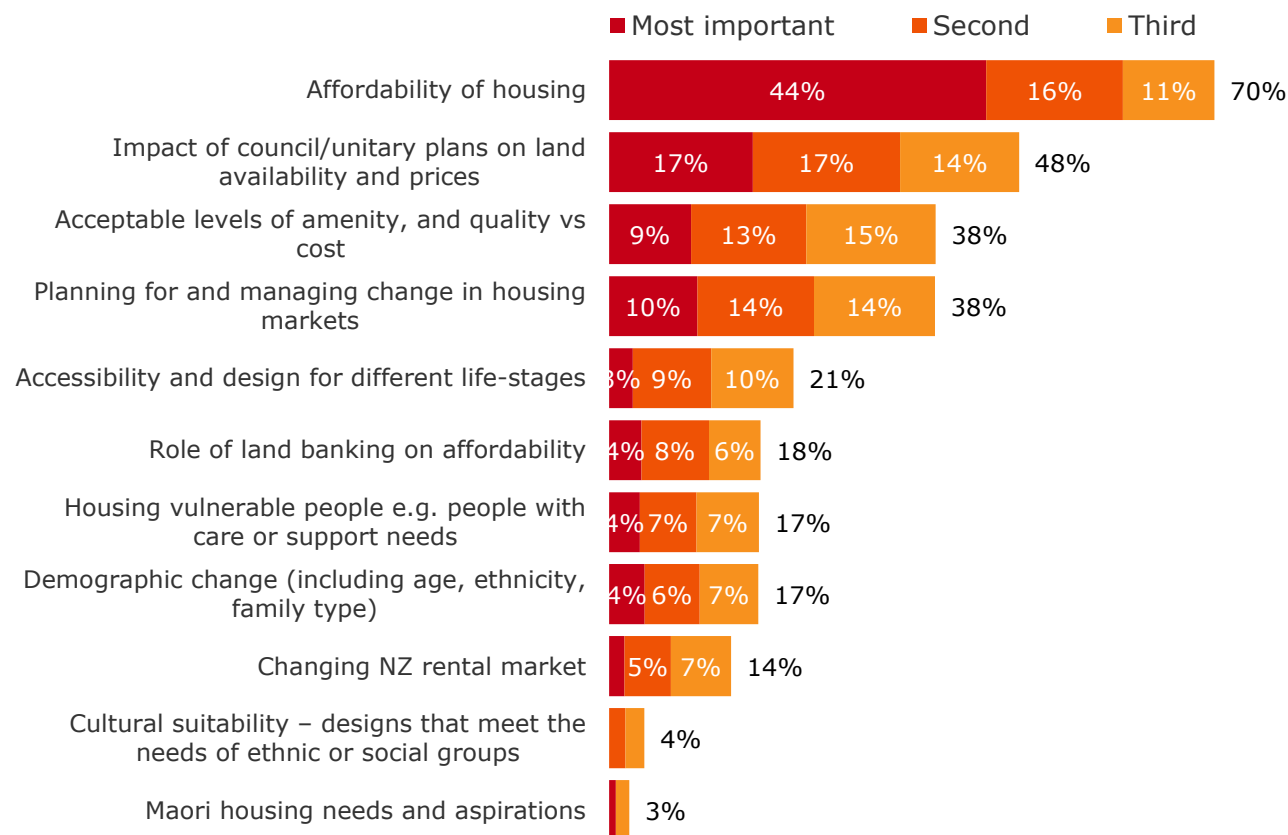
1. Top 5 categories chosen and then ranked from first to fifth most important

2. Sample sizes: Total n = 1,127, Builders n = 337, Building officials n = 131, Architects n = 124, Designers n = 193, Consultants n = 127, Others n = 215



# Affordability of housing is the key aspect of meeting housing needs...

## Meeting housing needs: importance of having up to date, accurate information<sup>(1)(2)</sup>



### Other important aspects

- Statutory minimums in rented accommodation and properties for sale
- Design of self contained spaces within existing dwellings
- The role of tax free capital gains on the housing market
- Planning for the likelihood of disability access requirements in housing

NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important
2. Sample size n = 1,127

... a concern shared by all groups

## Meeting housing needs: importance of having information by group<sup>(1)(2)</sup>

	Total	Builders / Contractors	Officials	Designers	Architects	Engineers / Consultants	Other
Affordability of housing	70%	72%	70%	72%	62%	65%	71%
Impact of council/unitary plans on land availability and prices	48%	50%	34%	48%	40%	43%	52%
Acceptable levels of amenity, and quality vs cost	38%	35%	34%	43%	54%	41%	38%
Planning for and managing change in housing markets	38%	39%	37%	32%	32%	36%	41%
Accessibility and design for different life-stages	21%	22%	27%	26%	22%	17%	19%
Role of land banking on affordability	18%	19%	24%	17%	10%	16%	17%
Housing vulnerable people e.g. people with care or support needs	17%	17%	27%	19%	7%	20%	17%
Demographic change (including age, ethnicity, family type)	17%	15%	18%	13%	31%	20%	16%
Changing NZ rental market	14%	13%	11%	12%	10%	19%	16%
Cultural suitability – designs that meet the needs of ethnic or social groups	4%	3%	10%	2%	16%	4%	7%
Maori housing needs and aspirations	3%	3%	4%	3%	3%	2%	2%

NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important

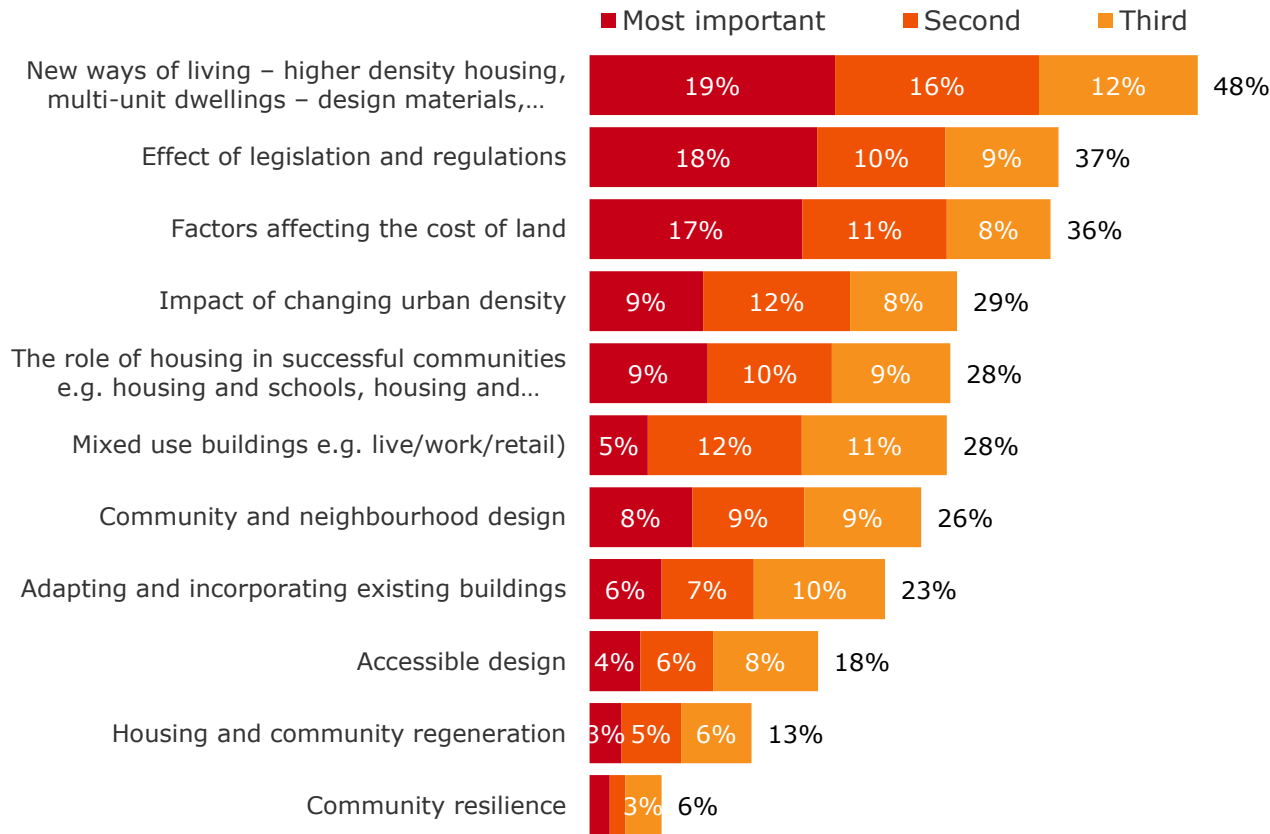
2. Sample sizes: Total n = 1,127, Builders n = 337, Building officials n = 131, Architects n = 124, Designers n = 193, Consultants n = 127, Others n = 215

Low  High



# Within building better cities finding new ways of living is key...

## Building better communities/cities: importance of having up to date, accurate information<sup>(1)(2)</sup>



### Other important aspects

- Principles of urban design and global examples of successful projects of inner city living
- Transport and infrastructure – prioritising public transport in planning
- Efficient and cost-efficient housing methods
- Benefits of mixed housing typologies and mixed occupancy to strengthen communities

NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important
2. Sample size n = 1,127

... particularly for architects and engineers

**Building better communities/cities: importance of having information by group<sup>(1)(2)</sup>**

	Total	Builders / Contractors	Officials	Designers	Architects	Engineers / Consultants	Other
New ways of living – higher density housing, multi-unit dwellings – design materials, performance'	48%	44%	44%	53%	57%	57%	50%
Effect of legislation and regulations	37%	37%	50%	34%	35%	32%	40%
Factors affecting the cost of land	36%	41%	25%	27%	17%	30%	35%
Impact of changing urban density	29%	27%	27%	28%	36%	30%	32%
The role of housing in successful communities e.g. housing and schools, housing and employment'	28%	27%	29%	24%	27%	31%	33%
Mixed use buildings e.g. live/work/retail)	28%	28%	23%	34%	33%	25%	28%
Community and neighbourhood design	26%	27%	30%	31%	27%	22%	23%
Adapting and incorporating existing buildings	23%	23%	26%	28%	31%	20%	22%
Accessible design	18%	20%	24%	17%	7%	17%	15%
Housing and community regeneration	13%	12%	11%	11%	17%	17%	10%
Community resilience	6%	5%	11%	5%	7%	8%	5%

NOTES:

1. Top 5 categories chosen and then ranked from first to fifth most important

2. Sample sizes: Total n = 1,127, Builders n = 337, Building officials n = 131, Architects n = 124, Designers n = 193, Consultants n = 127, Others n = 215



All of the major occupation groups have issues that they believe require immediate resolution, and overall 62% of industry members identify something that is in need of immediate attention

### Occupation groups identifying issues requiring immediate resolution<sup>(1)(2)</sup>



NOTES:

1. Sample size n = 1,127
2. In terms of the immediate future what is the one specific work related issue that you most need an answer to right now?

For the immediate future the top issues that the industry feels need to be answered now are regulation concerns, training/product knowledge, and accountability and liability

**Single issue that most needs immediate resolution (top 10 issues)<sup>(1)(2)</sup>**

Topic	Architects/ Designers	Builders	Officials	Consultants/ Others
Regulation concerns / building compliance	10%	7% ▼	18%	18% ▲
Training / product knowledge	5%	7%	10%	9%
Accountability / liability	5%	7%	4%	5%
Issuing consents / council	11% ▲	5%	6%	6%
Communication and better info	7%	4% ▼	10%	8%
Design aspects	11% ▲	4% ▼	7%	7%
Working conditions	5%	6%	5%	5%
Affordability	7%	5%	2%	7%
Leaky homes / weather tightness	8%	4%	6%	6%
Future demand / forecasts	9% ▲	4% ▼	6%	5%

NOTES:

1. Sample size: Total n = 1,127, Architects / designers n = 317, Builders n = 337, Officials n = 131, Consultants / others n = 342
2. In terms of the immediate future what is the one specific work related issue that you most need an answer to right now?

▲ Significantly higher than total  
▼ Significantly lower than total

# The top issues to be the subject of new / revised standards are regulation / compliance, alternative building methods and consistency of information

## Topic in need of revised/new standards/building code (top 10 issues)<sup>(1)(2)</sup>

Topic	Architects/ Designers	Builders	Officials	Consultants/ Others
Regulation / compliance / B1, C, E2 etc.	19% ▲	5% ▼	21% ▲	15% ▲
Alternative building methods	11% ▲	6%	12%	6%
Consistency / clearer info	9%	6%	6%	6%
Acceptable solutions	7%	5% ▼	3%	8% ▲
Air tightness / waterproofing	7%	5%	5%	4%
Better understanding of design	6%	5%	3%	4%
Bracing / durable materials	3%	4%	5%	7% ▲
Thermal performance / ventilation	7%	3% ▼	6%	7% ▲
Fire	7% ▲	2% ▼	14% ▲	4%
Communication and info on new products	4%	2%	3%	3%

NOTES:

- Sample size: Total n = 1,127, Architects / designers n = 317, Builders n = 337, Officials n = 131, Consultants / others n = 342
- In your opinion, what single topic area most needs to be the subject of new or revised New Zealand Standards or New Zealand Building Code Clauses/Acceptable Solutions/Verification Methods?

▲ Significantly higher than total  
▼ Significantly lower than total

# Training / designer knowledge, alternative building methods and town planning are seen as other areas needing to be addressed

## Other topics that require addressing (top 10 topics)<sup>(1)(2)</sup>

Topic	Architects/ Designers	Builders	Officials	Consultants/ Others
Training / designer knowledge	5%	8%	6%	8%
Alternative building methods	6%	3% ▼	12% ▲	8% ▲
Design / town planning	9% ▲	3% ▼	5%	6%
Centralized database	2%	3%	2%	3%
Consistency / clearer information / Simplify	2%	3%	0%	2%
Cost comparisons / benefits	7% ▲	2%	3%	2%
Air quality / healthier homes	2%	2%	5%	2%
Building codes / regulations	4%	1%	7% ▲	2%
Consents / council	1%	1%	1%	2%
Durability / quality buildings	3%	1%	2%	1%

NOTES:

1. Sample size: Total n = 1,127, Architects / designers n = 317, Builders n = 337, Officials n = 131, Consultants / others n = 342

2. When you think about all the major topic areas that we have reviewed so far, are there any particular areas within any of these that you feel the industry should be focussing on to create new knowledge that we have not mentioned? ▲ Significantly higher than total ▼ Significantly lower than total

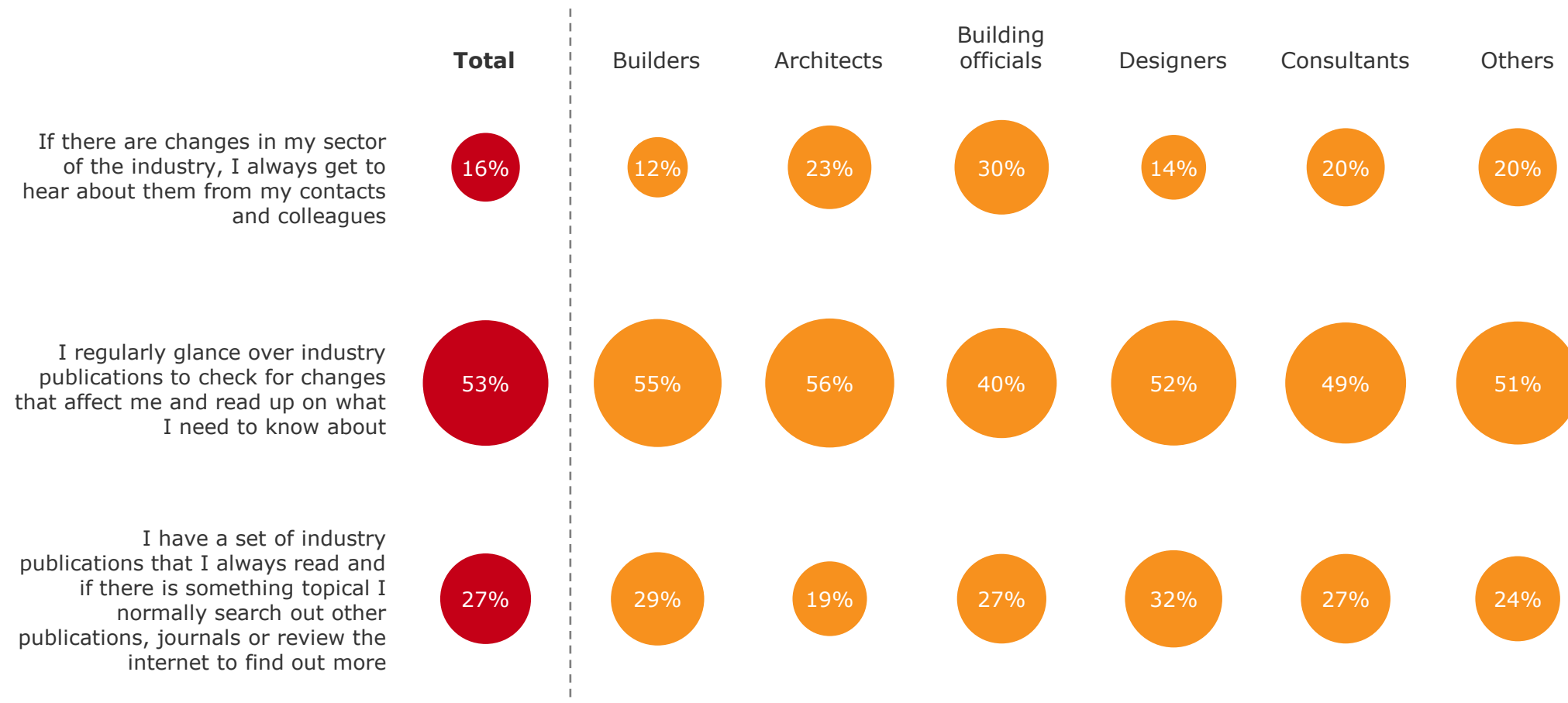
# 3

## Information sources



# About one in four are actively keeping up-to-date and researching

## Self-described level of keeping up-to-date with trends and changes<sup>(1)</sup>



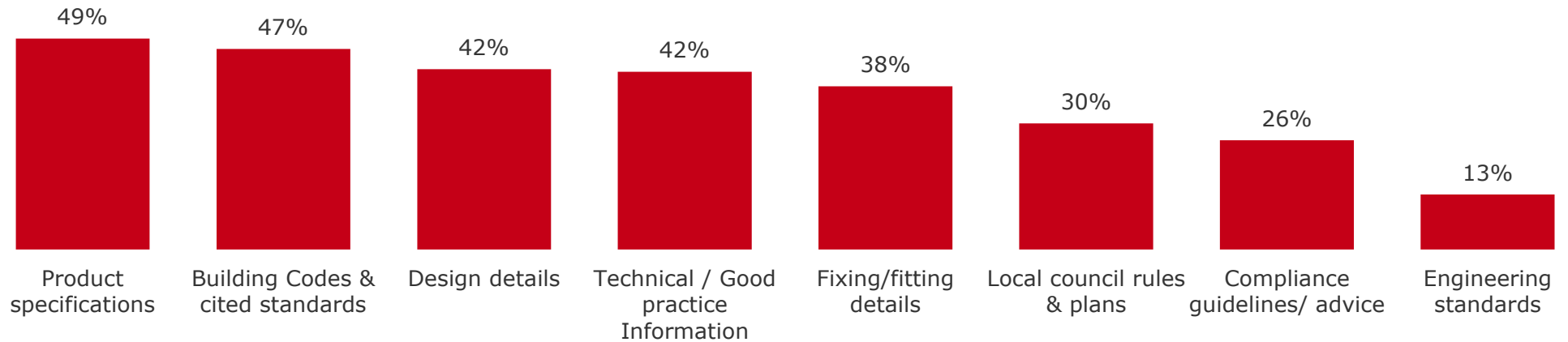
NOTES:

1. Sample sizes: Total n = 1,127, Builders n = 337, Building officials n = 131, Architects n = 124, Designers n = 193, Consultants n = 127, Others n = 215



The information that is most frequently sourced relates to product specifications and building codes and standards

**Information being sourced most frequently<sup>(1)(2)</sup>**



NOTES:

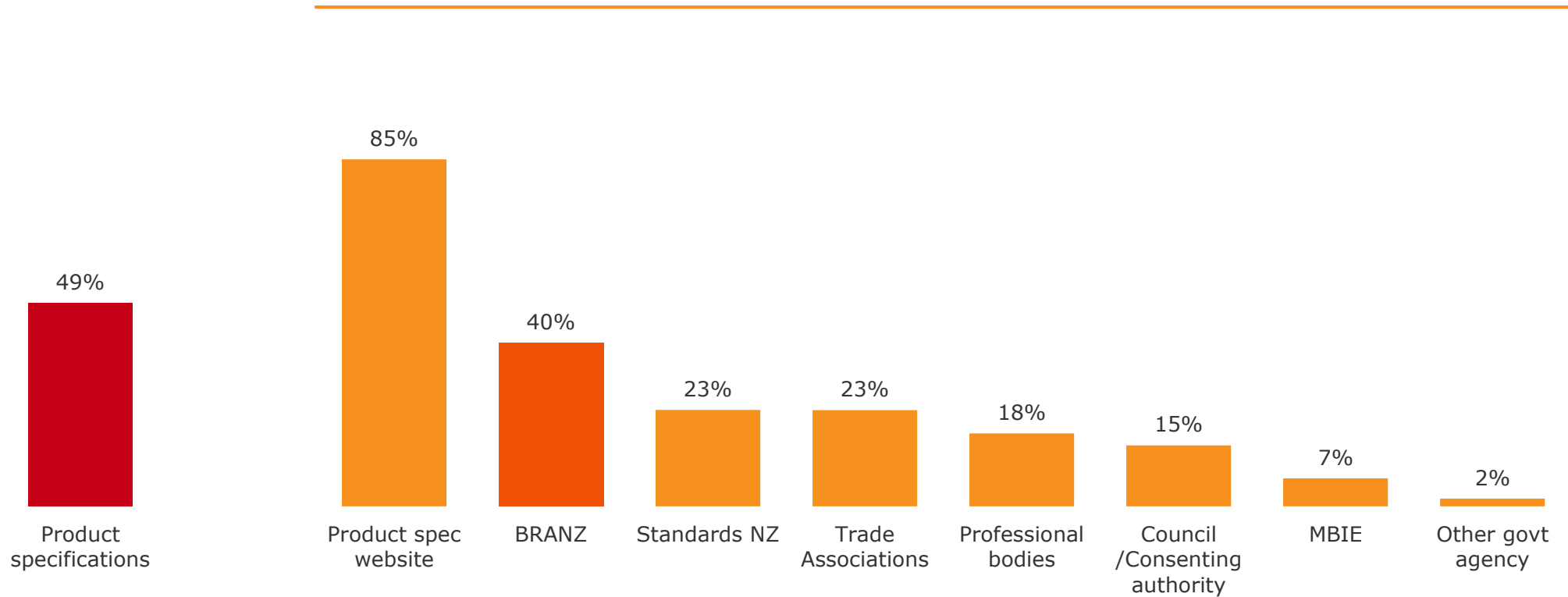
1. Sample size n = 1,127

2. What are the general types of information that you most frequently need to source as part of your day-to-day activities? Select the three types of information that you use most frequently?

Product specification websites are the primary source of information on product specifications, with BRANZ also used by around two-fifths of the industry

**Information sources being sourced most frequently: product specifications<sup>(1)(2)(3)</sup>**

**Sources used**

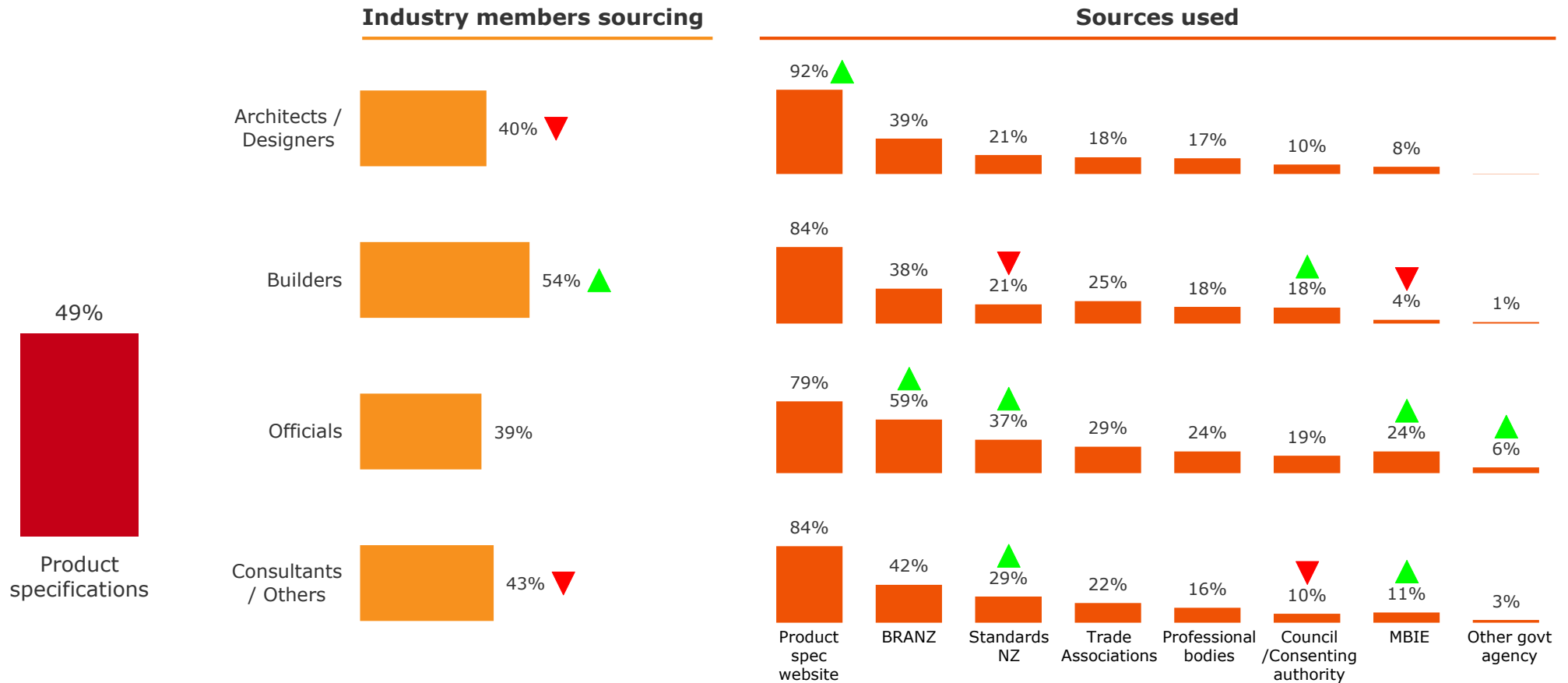


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3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

All industry groups have a high frequency of sourcing information on product specifications, especially builders, with product specification websites the key source particularly for architects / designers

**Information sources being sourced most frequently: product specifications<sup>(1)(2)(3)</sup>**



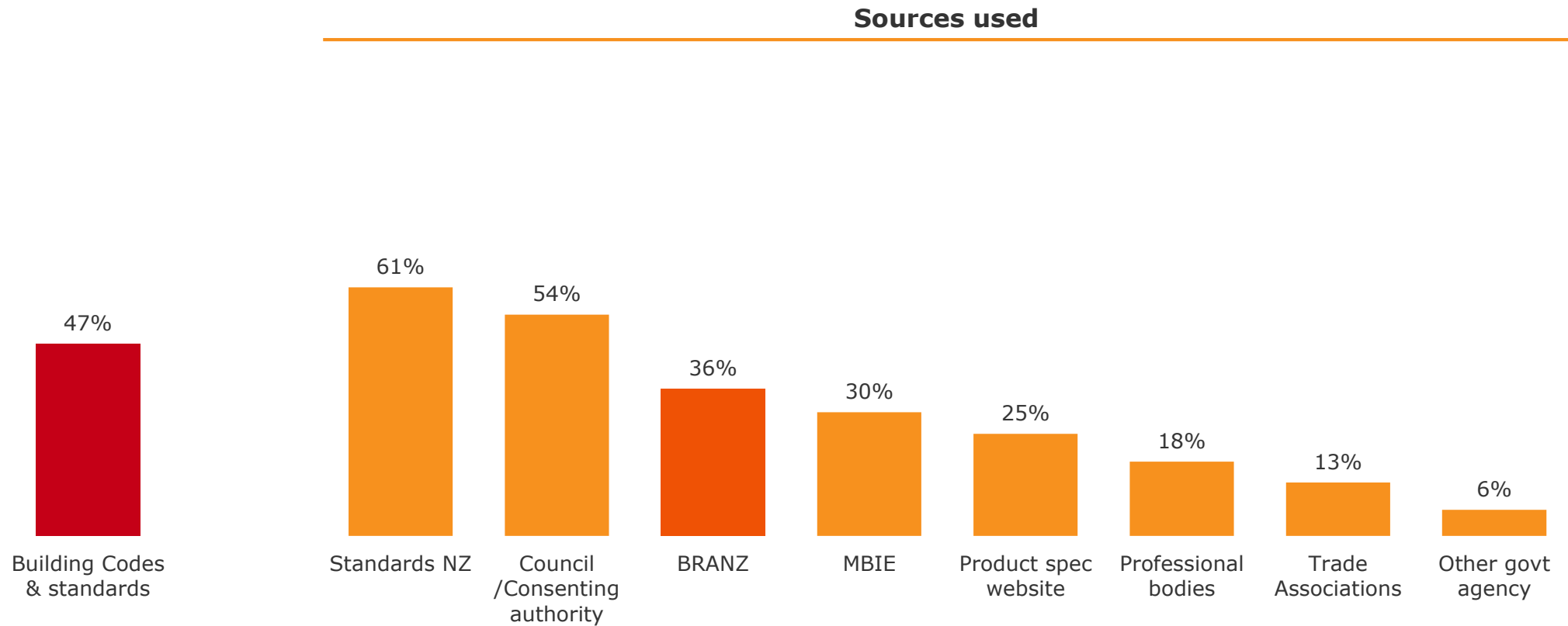
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3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

▲ Significantly higher than total  
▼ Significantly lower than total

# Standards NZ or the council is the key source of information on building codes and standards

## Information sources being sourced most frequently: building codes & standards<sup>(1)(2)(3)</sup>

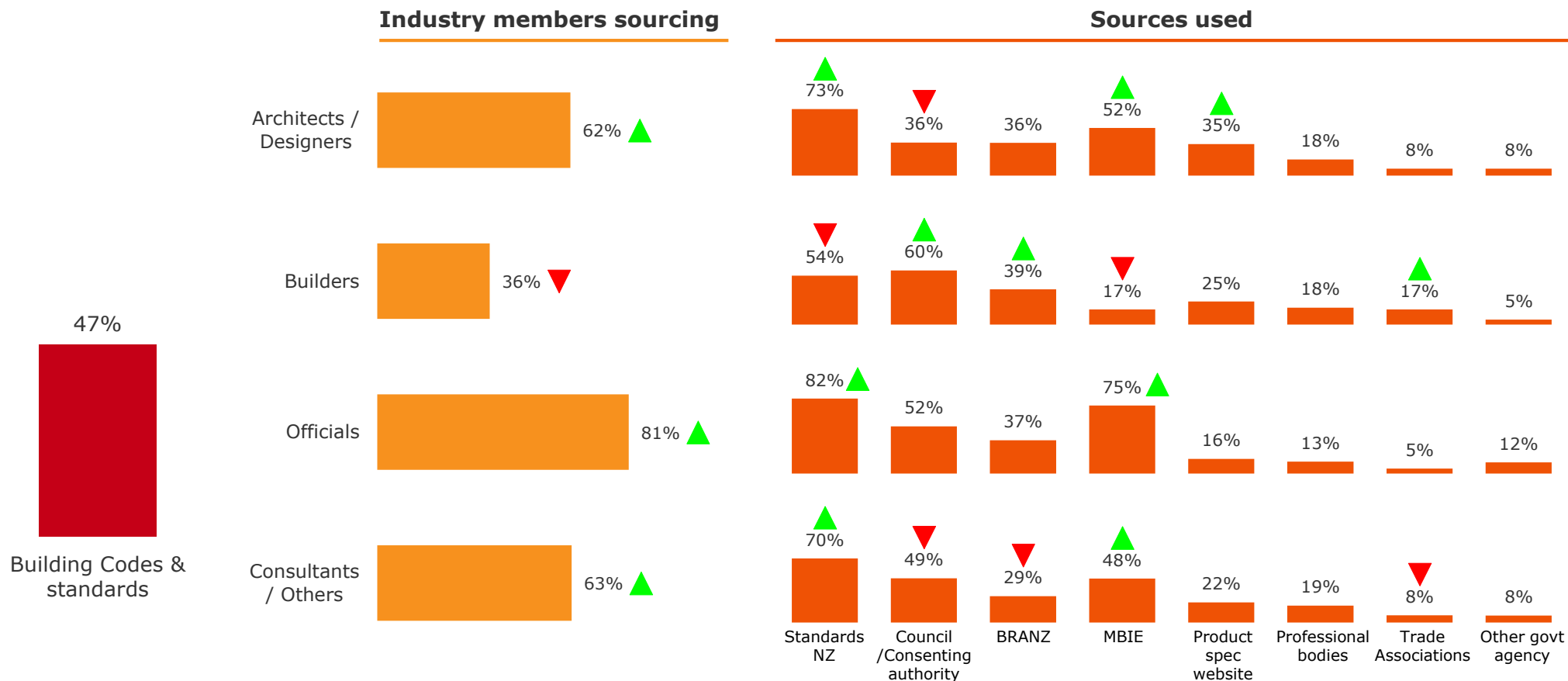


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Builders are less likely than other industry groups to be sourcing information on building codes and standards – whereas eight in ten officials do and use Standards NZ or MBIE as their primary source

### Information sources being sourced most frequently: building codes & standards<sup>(1)(2)(3)</sup>



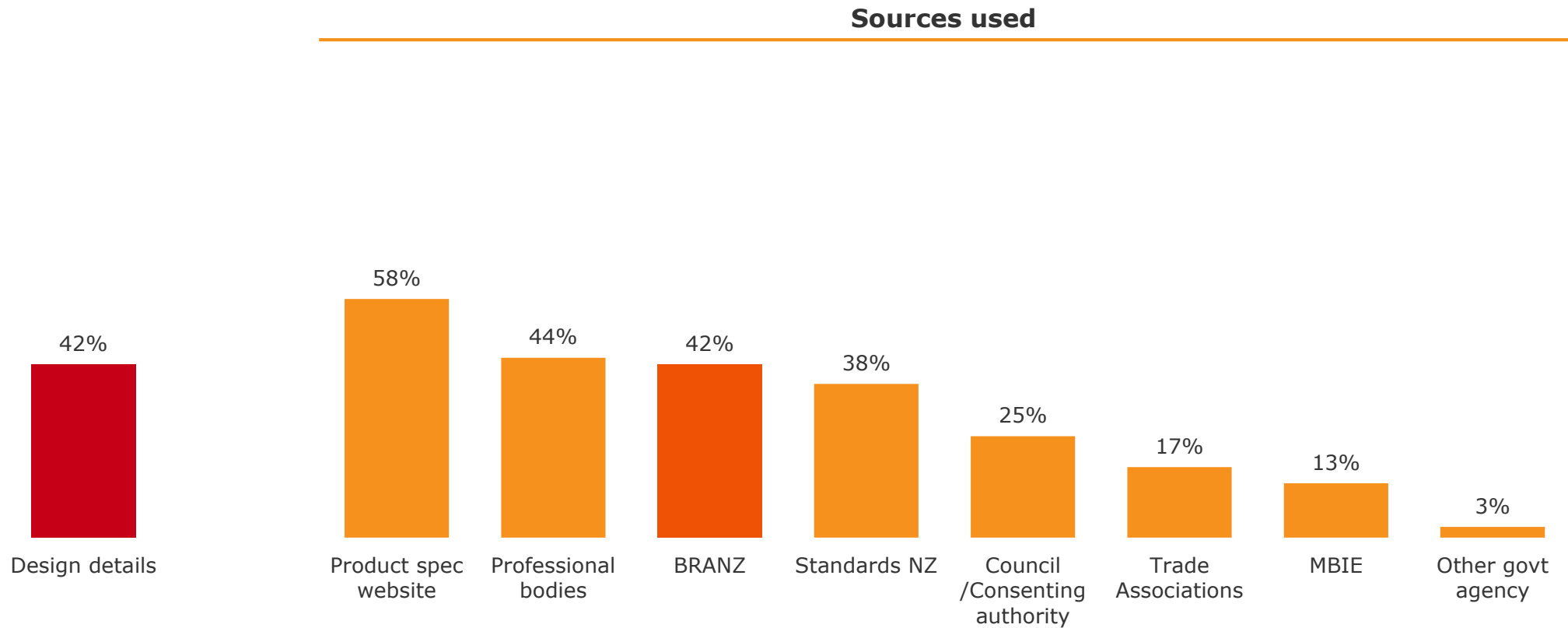
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3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

▲ Significantly higher than total  
▼ Significantly lower than total

When it comes to design information a number of sources are frequently used, the most common being product specifications websites and professional bodies

### Information sources being sourced most frequently: design details<sup>(1)(2)(3)</sup>

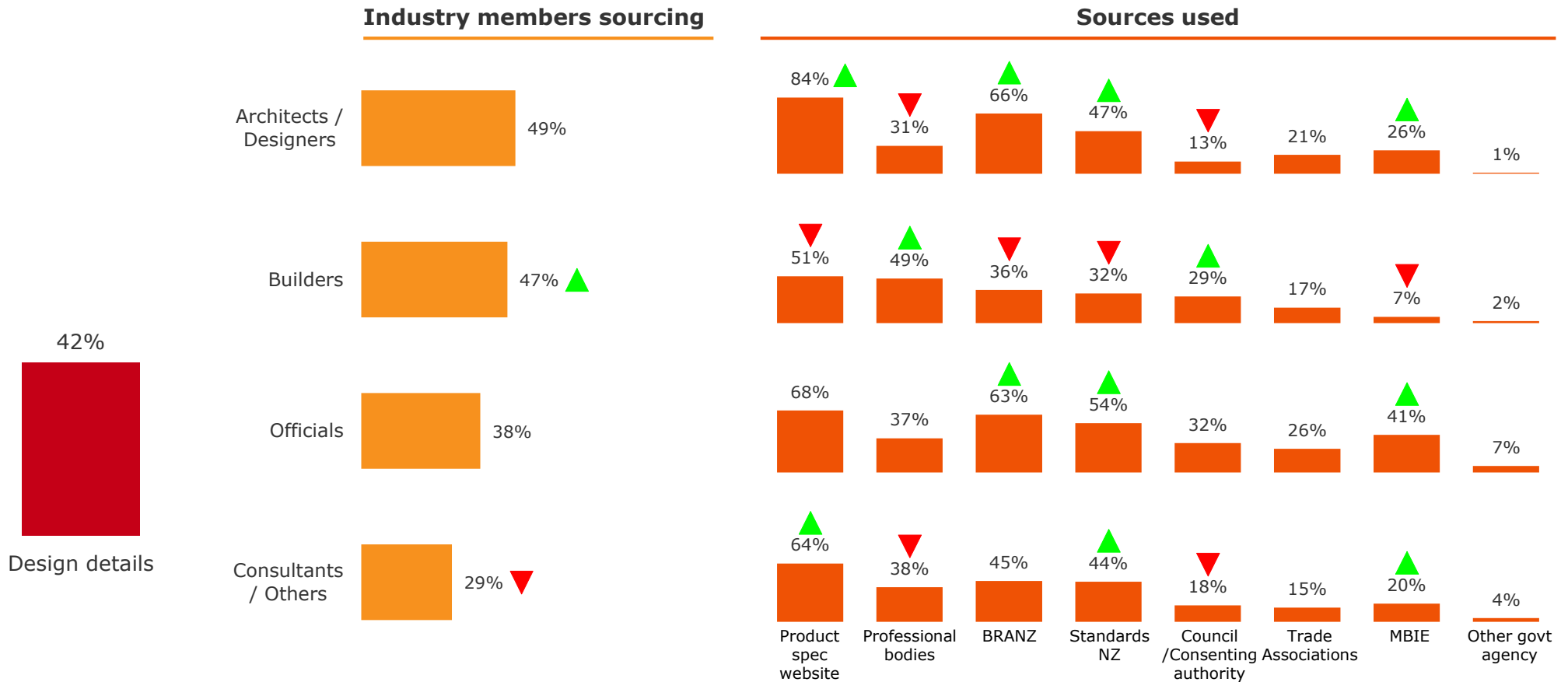


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2. What are the general types of information that you most frequently need to source as part of your day-to-day activities? Select the three types of information that you use most frequently
3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

Consultants / others are the least likely to source design information, with architects and builders being frequent users but typically via different sources

**Information sources being sourced most frequently: design details<sup>(1)(2)(3)</sup>**



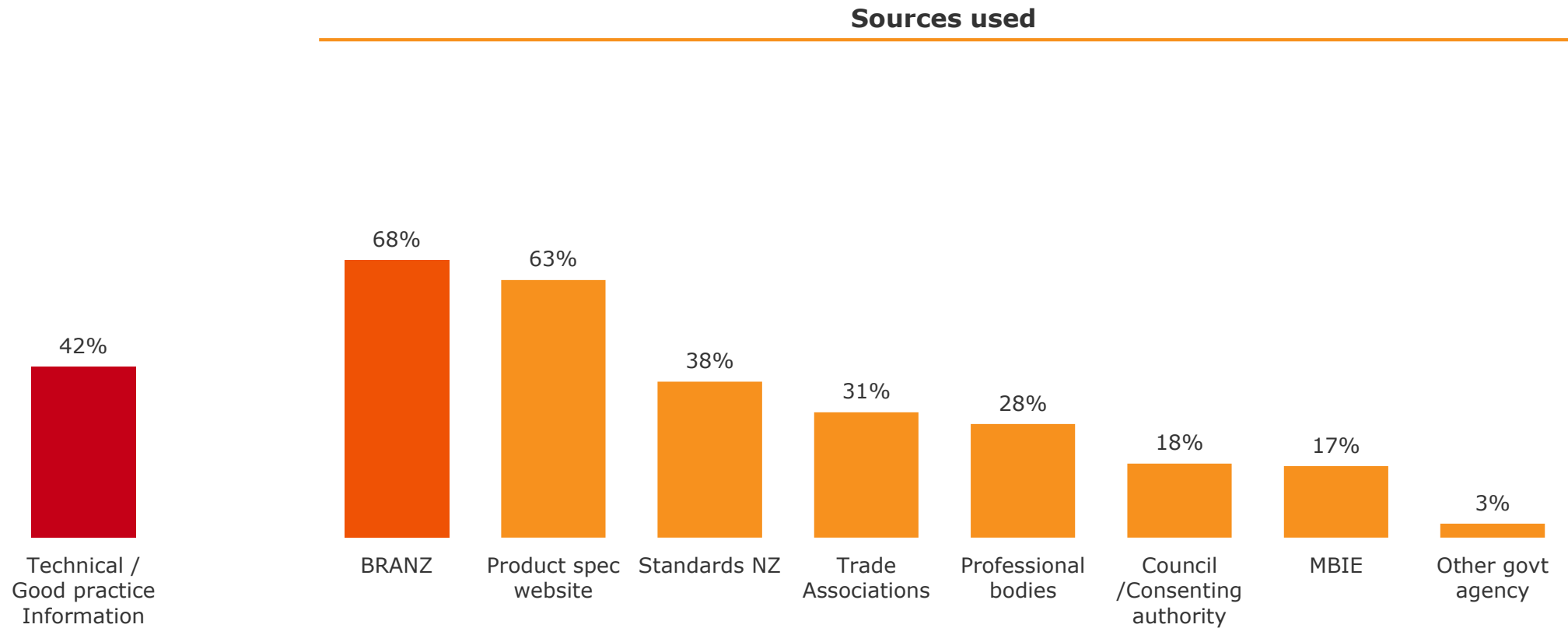
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3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

▲ Significantly higher than total  
▼ Significantly lower than total

For technical / good practice information two thirds look to BRANZ, with product specifications websites also frequently used

**Information sources being sourced most frequently: technical/good practice information<sup>(1)(2)(3)</sup>**



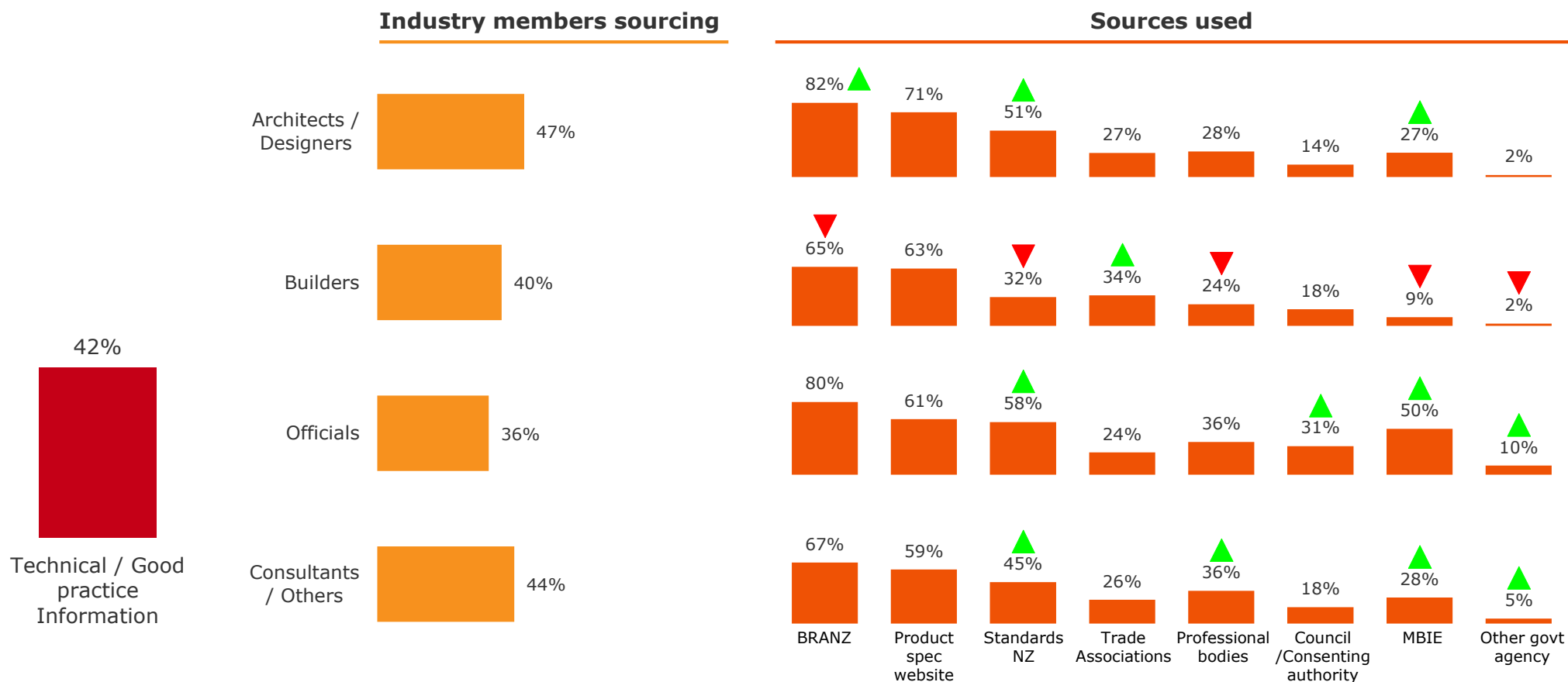
NOTES:

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3. For each of the following types of information, what organisations do you most frequently use? Select all that apply



# Architects are more likely than other industry groups to be sourcing information on technical / good practices and are most likely to use BRANZ

## Information sources being sourced most frequently: technical/good practice information<sup>(1)(2)(3)</sup>



NOTES:

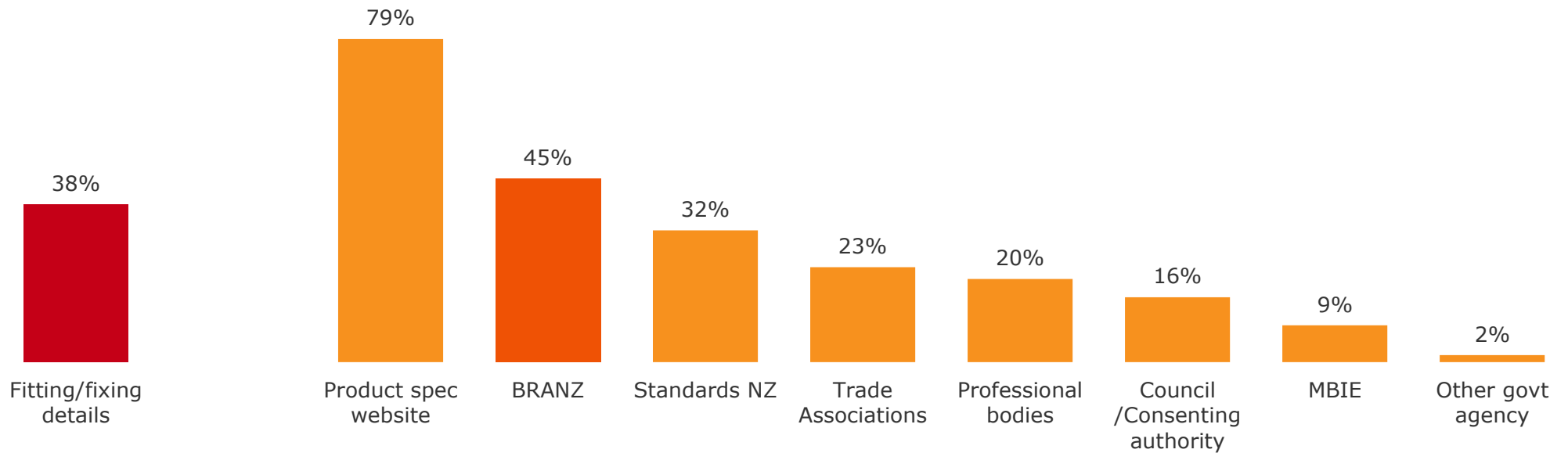
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3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

▲ Significantly higher than total  
▼ Significantly lower than total

# Product specification websites are the key information source for fitting details

## Information sources being sourced most frequently: fitting/fixing details<sup>(1)(2)(3)</sup>

### Sources used

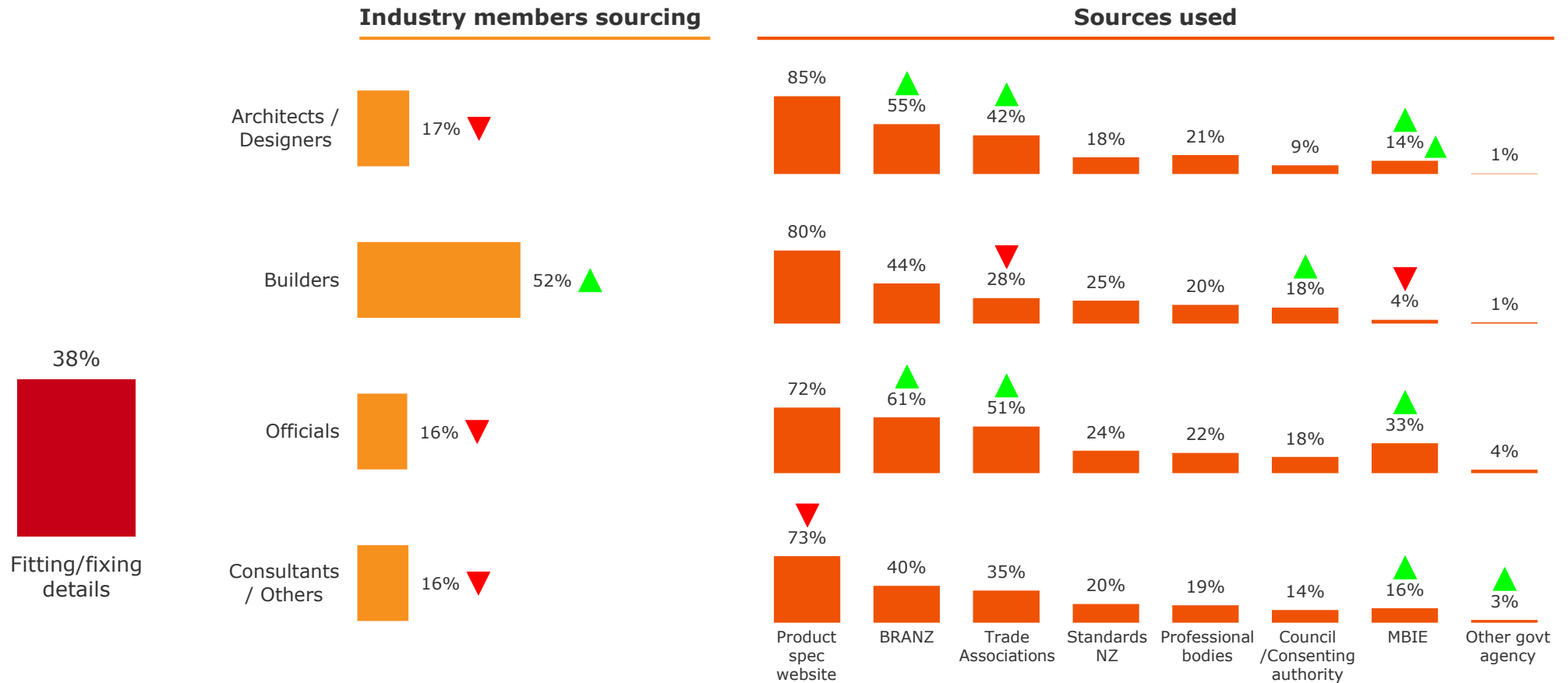


NOTES:

1. Sample size n = 1,127
2. What are the general types of information that you most frequently need to source as part of your day-to-day activities? Select the three types of information that you use most frequently
3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

# Builders are more likely to be sourcing information on fitting details, with product specification websites the most common source

## Information sources being sourced most frequently: fitting/fixing details<sup>(1)(2)(3)</sup>



NOTES:

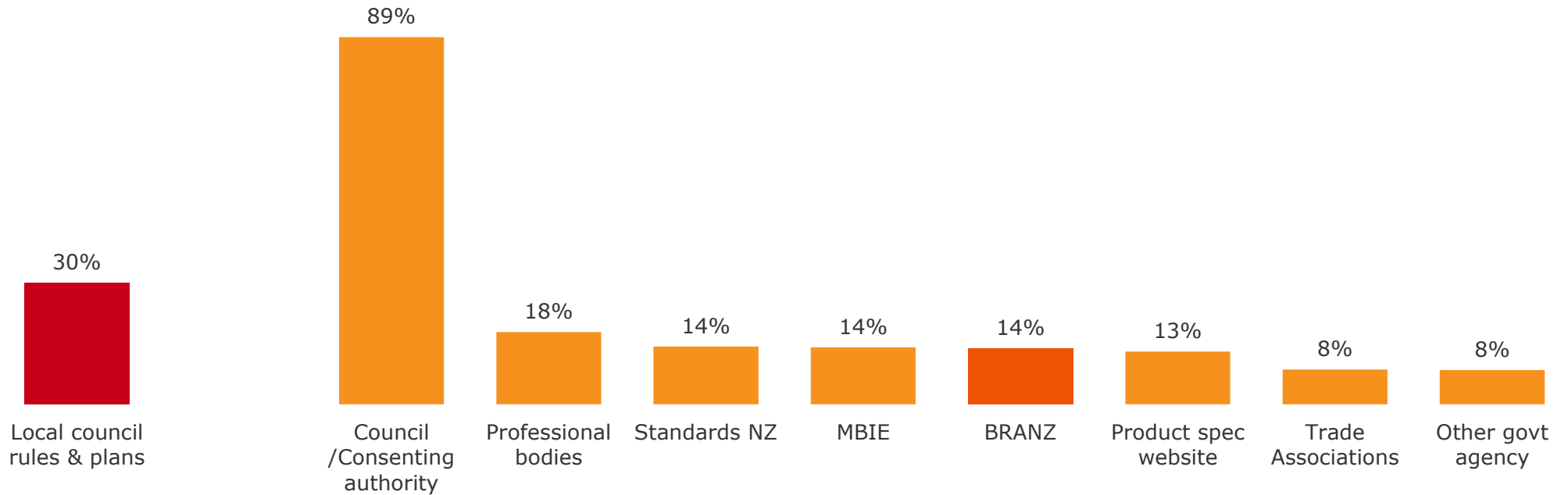
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3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

▲ Significantly higher than total  
▼ Significantly lower than total

For information around local council rules and plans the vast majority look to the council / consenting authority

**Information sources being sourced most frequently: local council rules & plans<sup>(1)(2)(3)</sup>**

Sources used

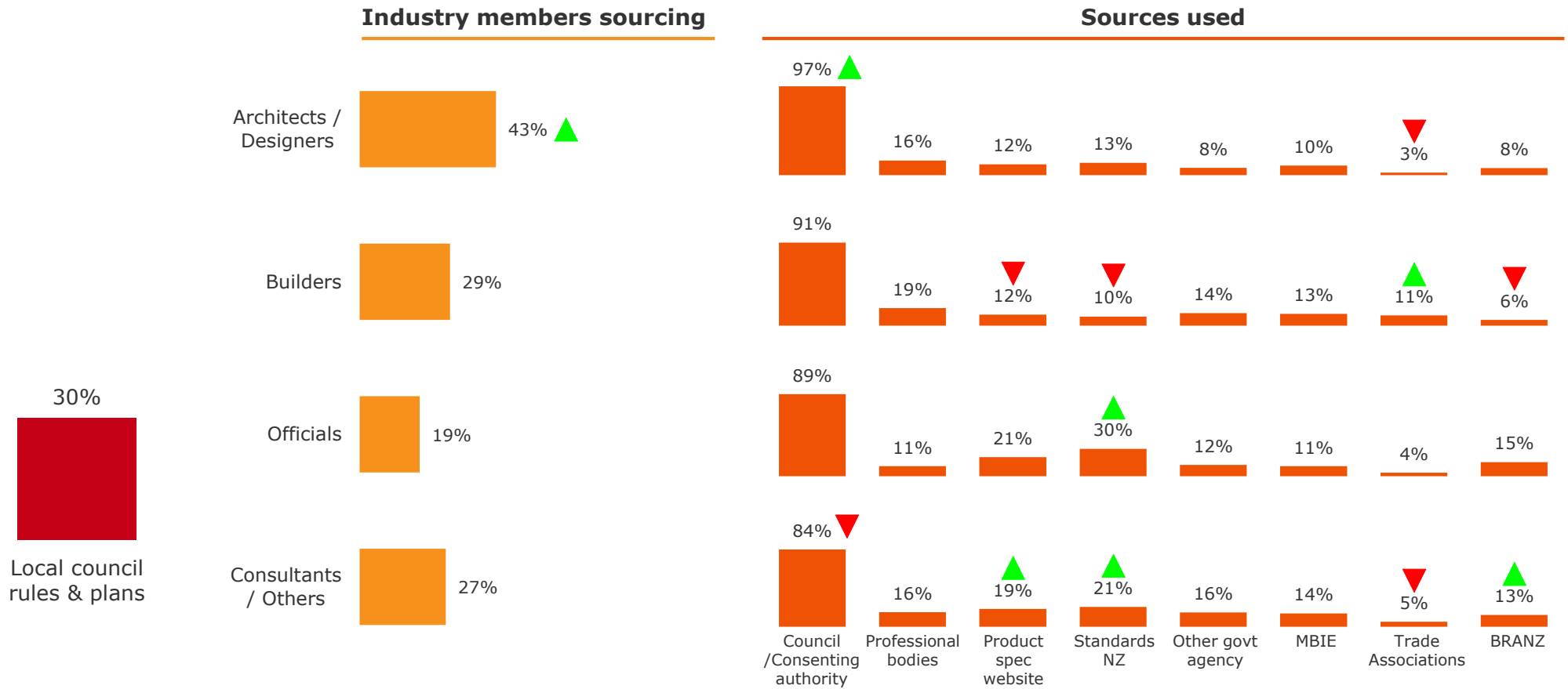


NOTES:

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2. What are the general types of information that you most frequently need to source as part of your day-to-day activities? Select the three types of information that you use most frequently
3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

Architects / designers are the most frequent users of information on local council rules and plans and overwhelmingly prefer to source from the council / consenting authority

**Information sources being sourced most frequently: local council rules & plans<sup>(1)(2)(3)</sup>**



NOTES:

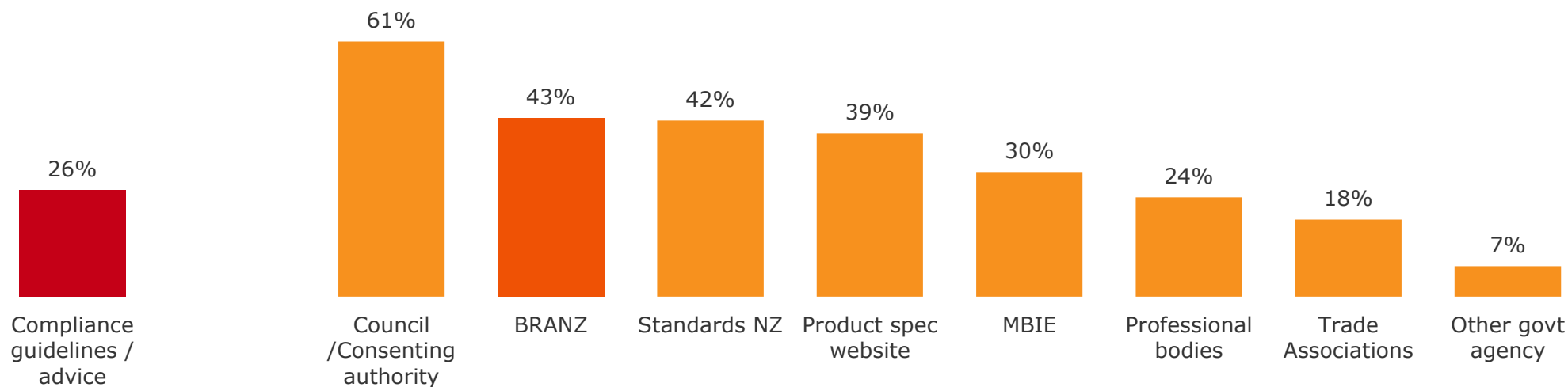
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3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

▲ Significantly higher than total  
▼ Significantly lower than total

The local council / consenting authority is the primary source of information around compliance, with about two-fifths also sourcing info from BRANZ, Standards NZ and product specification websites

### Information sources being sourced most frequently: compliance guidelines/advice<sup>(1)(2)(3)</sup>

#### Sources used

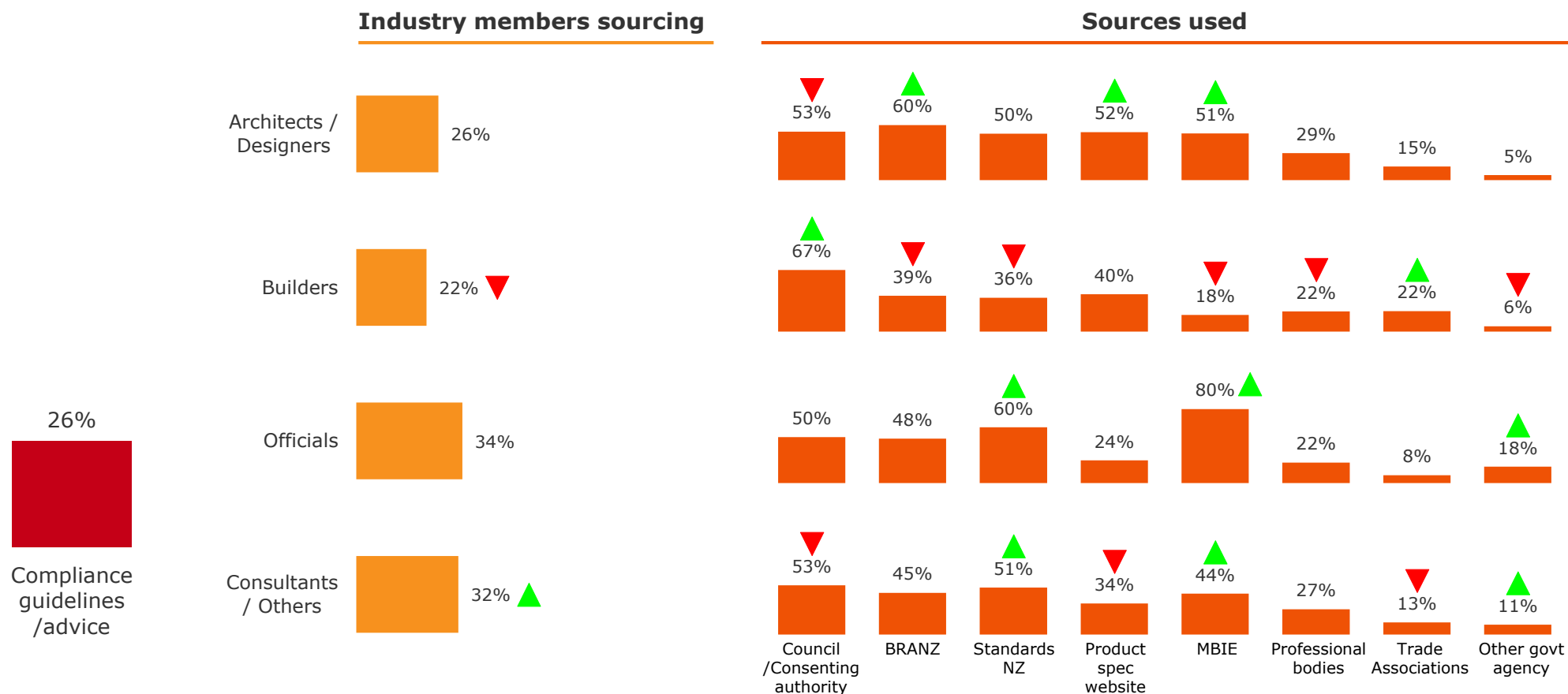


NOTES:

1. Sample size n = 1,127
2. What are the general types of information that you most frequently need to source as part of your day-to-day activities? Select the three types of information that you use most frequently
3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

# Officials and consultants most frequently source compliance information, with Standards NZ and MBIE being their most commonly used information source

## Information sources being sourced most frequently: compliance guidelines/advice<sup>(1)(2)(3)</sup>



NOTES:

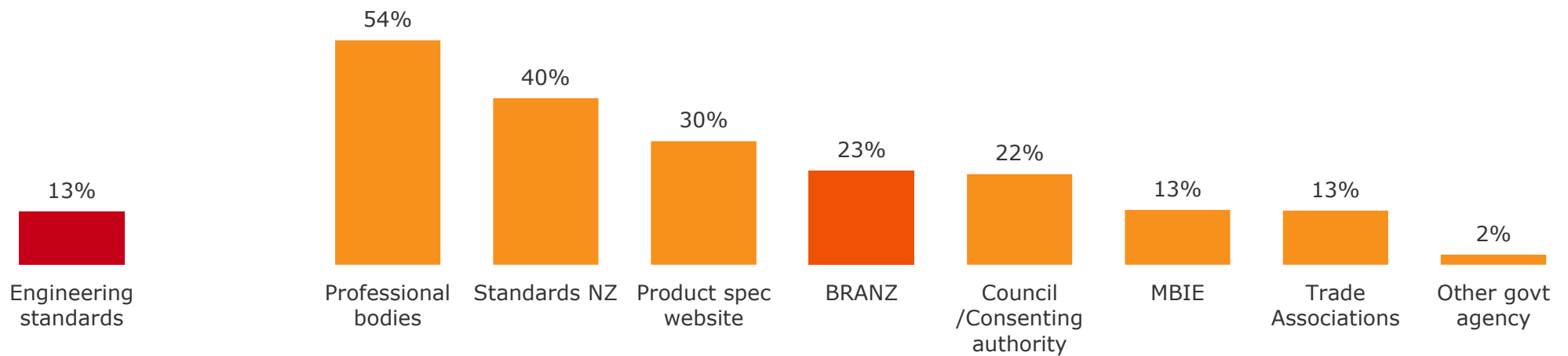
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3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

▲ Significantly higher than total  
▼ Significantly lower than total

# The few industry members frequently sourcing information on engineering standards tend to use professional bodies or Standards NZ

## Information sources being sourced most frequently: engineering standards<sup>(1)(2)(3)</sup>

### Sources used



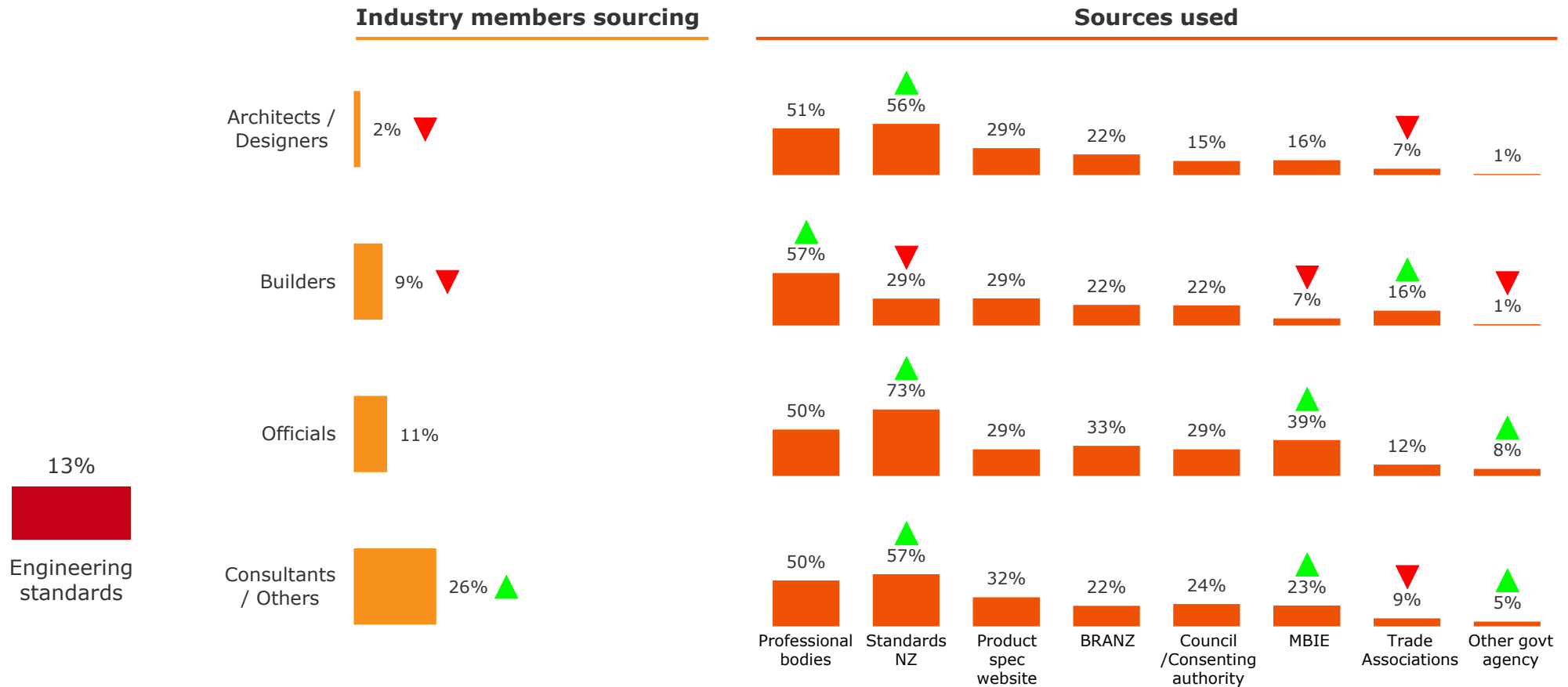
NOTES:

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3. For each of the following types of information, what organisations do you most frequently use? Select all that apply



# Consultants / others source the most information on engineering standards and tend to use professional bodies or Standards NZ

## Information sources being sourced most frequently: engineering standards<sup>(1)(2)(3)</sup>



NOTES:

1. Sample size: Total n = 1,127, Architects / designers n = 317, Builders n = 337, Officials n = 131, Consultants / others n = 342

2. What are the general types of information that you most frequently need to source as part of your day-to-day activities? Select the three types of information that you use most frequently

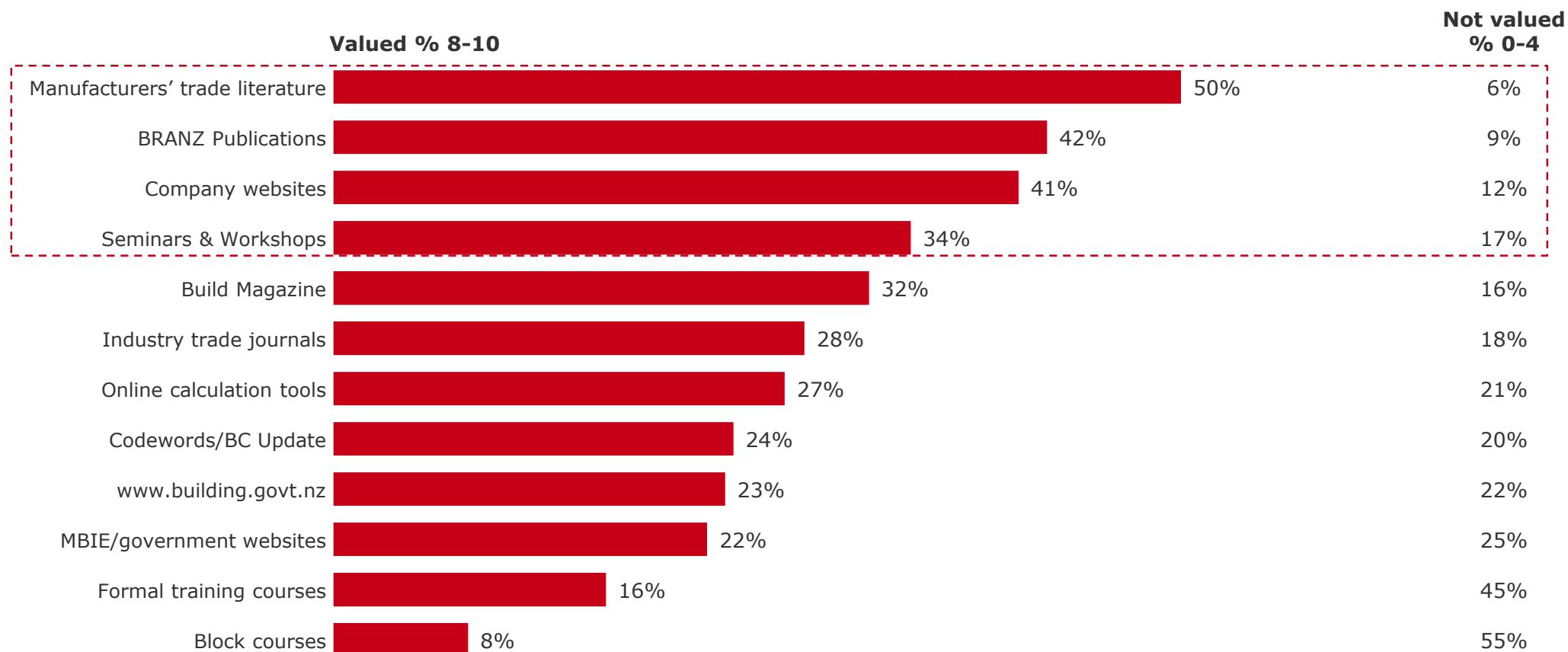
3. For each of the following types of information, what organisations do you most frequently use? Select all that apply

▲ Significantly higher than total

▼ Significantly lower than total

# The most valued sources of information are manufacturers' trade literature, BRANZ publications and company websites

## Value of sources of information<sup>(1)(2)</sup>

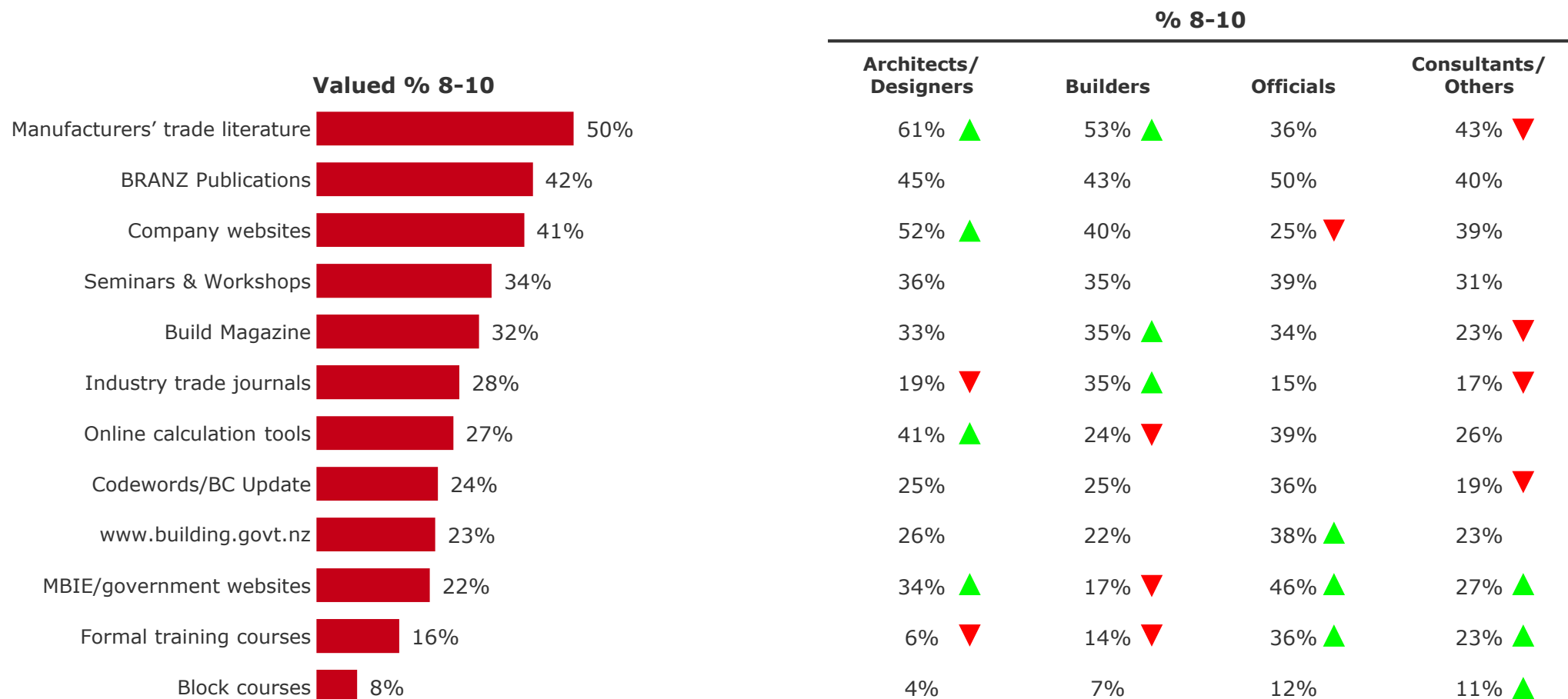


NOTES:

1. Sample size n = 1,127
2. When seeking information to help with your work, how valuable are each of the following sources to you?

# Architects / designers tend to place more value on the various sources of information available, while builders particularly value manufacturers' literature

## Value of sources of information<sup>(1)(2)</sup>



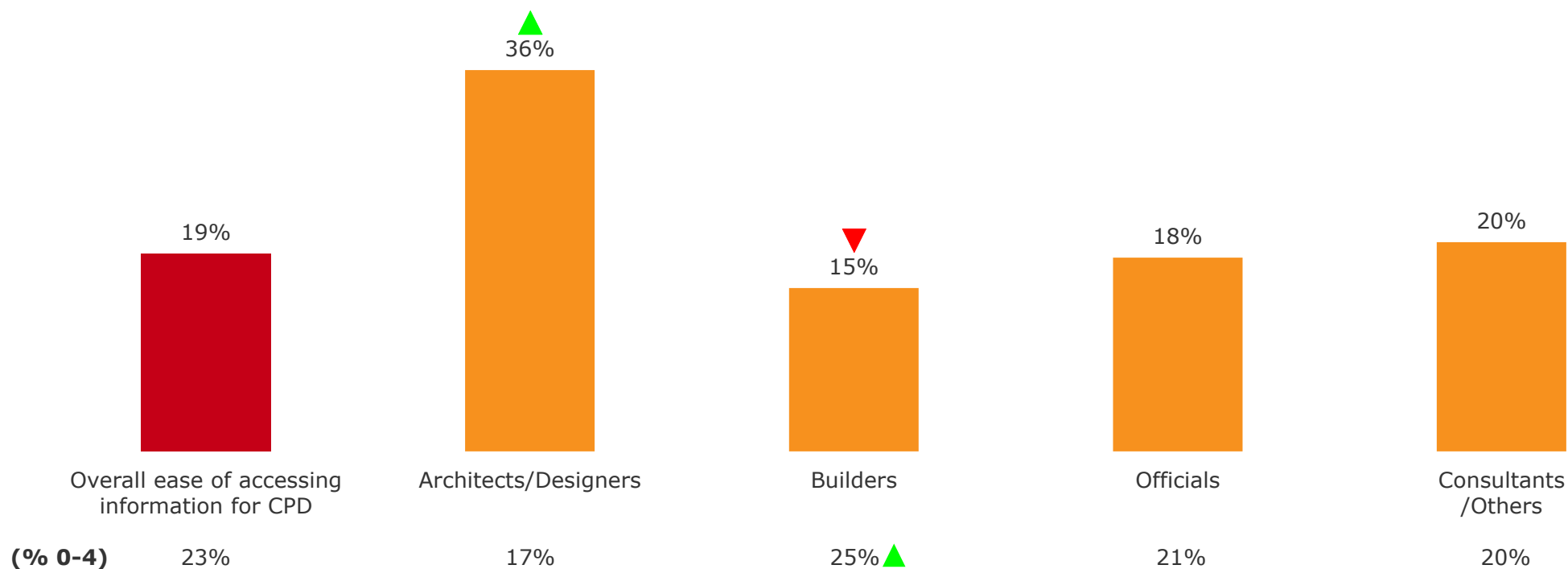
NOTES:

1. Sample size: Total n = 1,127, Architects / designers n = 317, Builders n = 337, Officials n = 131, Consultants / others n = 342
2. When seeking information to help with your work, how valuable are each of the following sources to you?

▲ Significantly higher than total  
▼ Significantly lower than total

# Builders find it harder to access information for their continuing professional development (CPD) than other industry groups

## Ease of finding information for professional development (8-10%) <sup>(1)(2)</sup>



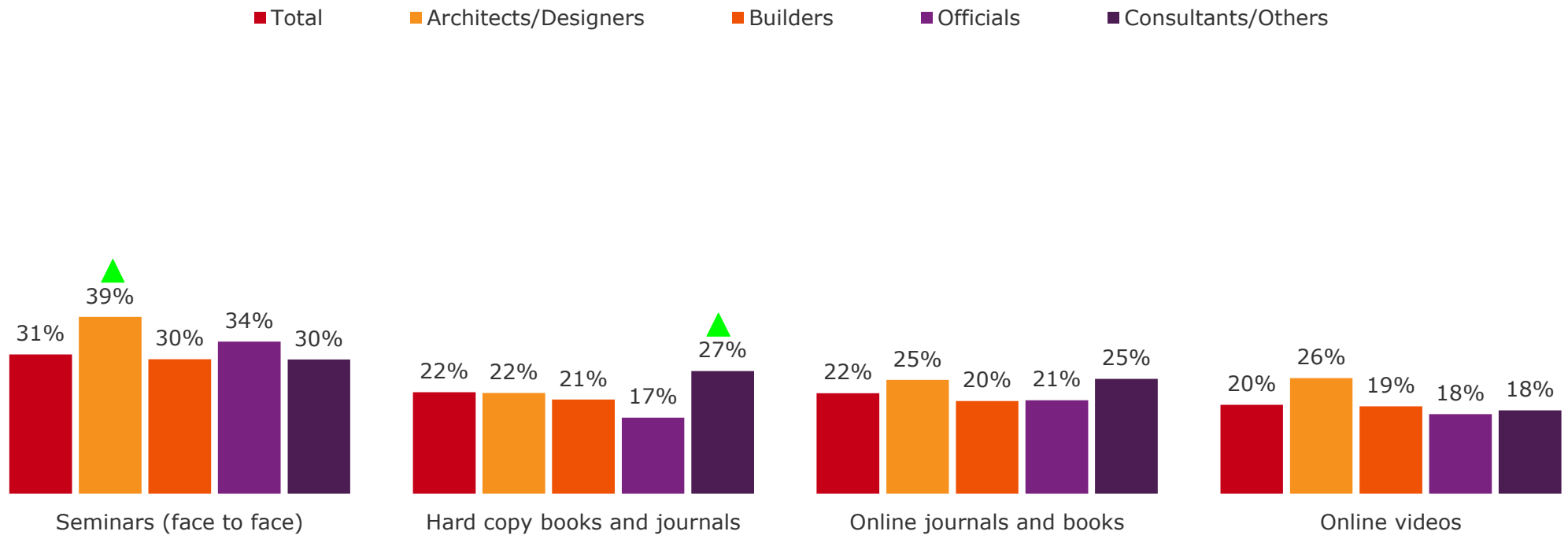
NOTES:

1. Sample size: Total n = 1,127, Architects / designers n = 317, Builders n = 337, Officials n = 131, Consultants / others n = 342
2. How easy do you find accessing information for 'Continuing Professional Development'?

▲ Significantly higher than total  
▼ Significantly lower than total

# Seminars are the most preferred delivery method for CPD, while online videos are the least preferred

## Preferred delivery method: information for continuing professional development (% 8-10)<sup>(1)(2)</sup>



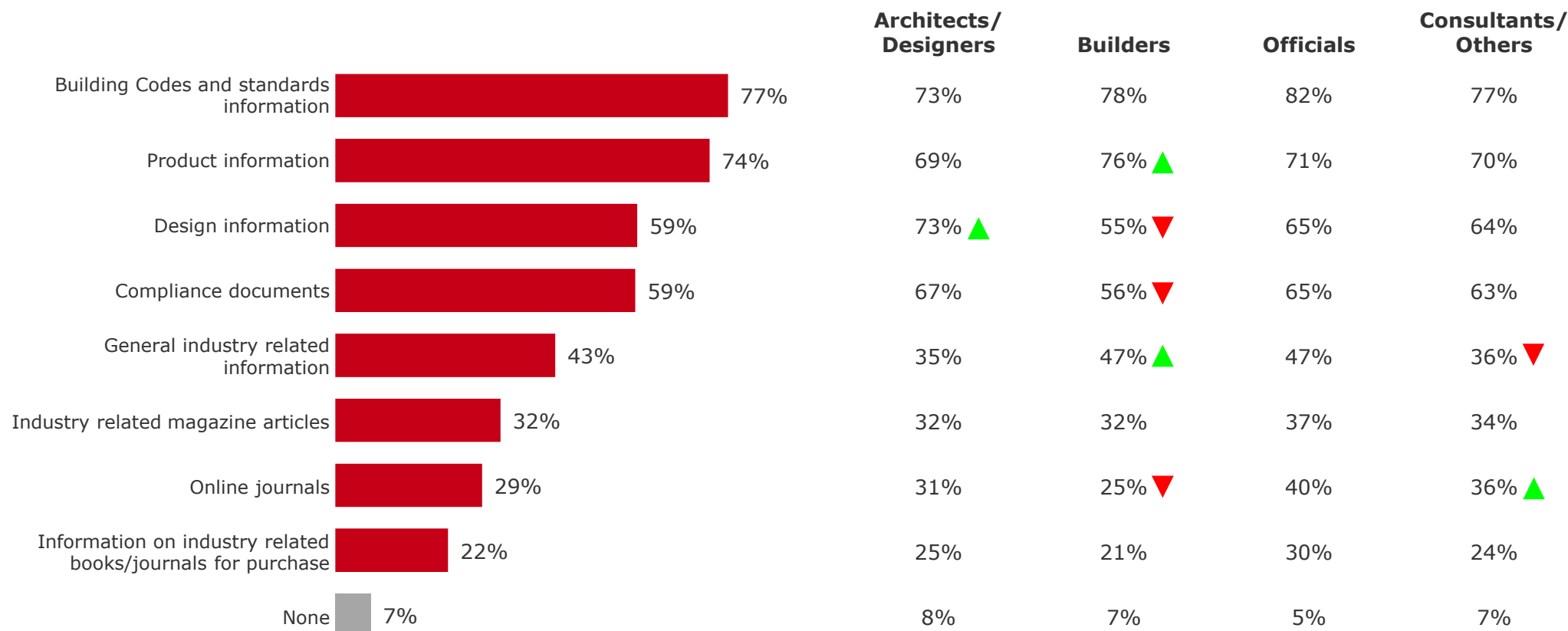
NOTES:

1. Sample size: Total n = 1,127, Architects / designers n = 317, Builders n = 337, Officials n = 131, Consultants / others n = 342
2. What preference do you have for each of the delivery methods in relation to 'Continuing Professional Development'?

▲ Significantly higher than total  
▼ Significantly lower than total

Building codes and standards, product and design information and compliance documents are the topics that the industry most wants to have information for available electronically

### Topics most want to access information about electronically<sup>(1)(2)</sup>



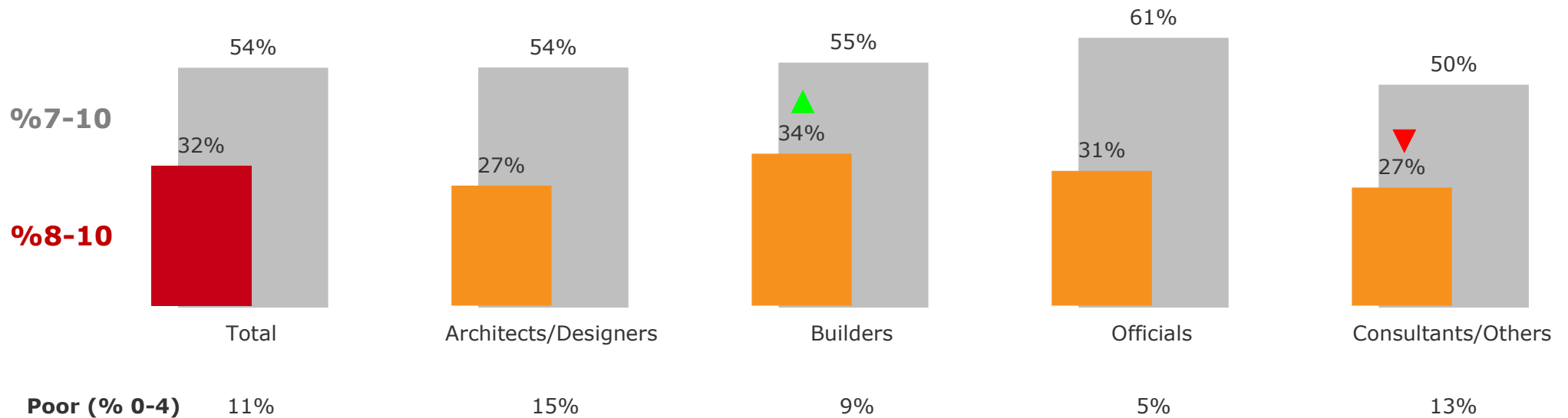
NOTES:

1. Sample size: Total n = 1,127, Architects / designers n = 317, Builders n = 337, Officials n = 131, Consultants / others n = 342
2. From the list below, which topics would you most want to have more information about available electronically?

▲ Significantly higher than total  
▼ Significantly lower than total

# Builders rate BRANZ the highest and consultants the least for being good at selecting research projects to create new knowledge

## BRANZ being good at selecting research projects to create new knowledge<sup>(1)(2)</sup>



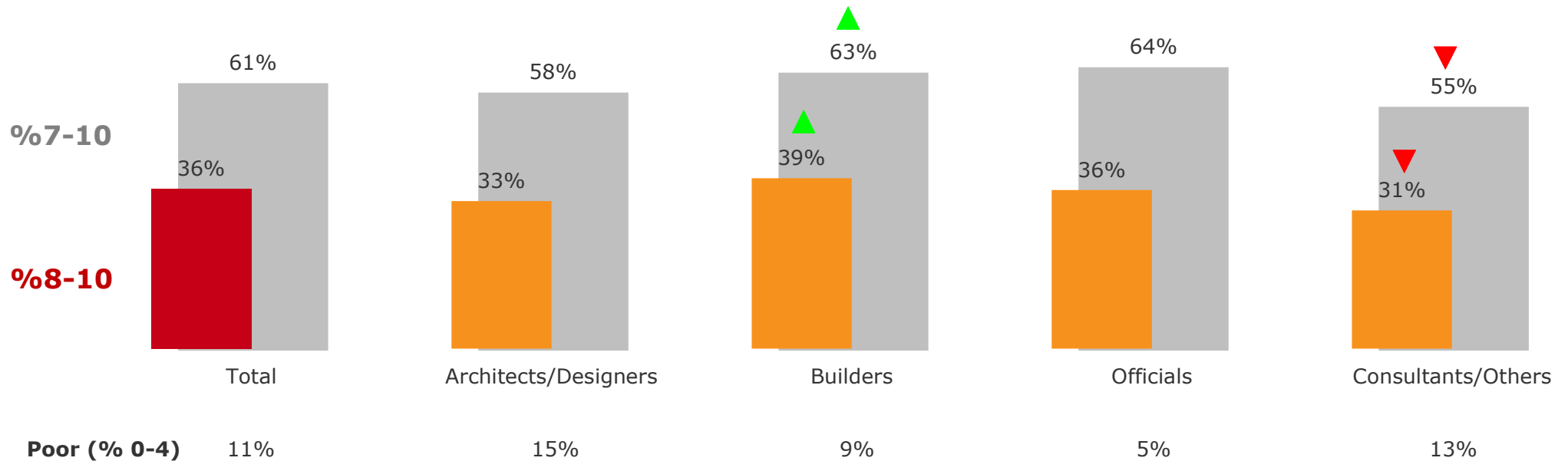
NOTES:

1. Sample size: Total n = 1,127, Architects / designers n = 317, Builders n = 337, Officials n = 131, Consultants / others n = 342
2. How good is BRANZ at selecting research projects that create new and valuable knowledge for the building & construction industry?

▲ Significantly higher than total  
▼ Significantly lower than total

# Builders also rate BRANZ highest for being good at communicating its research knowledge

## BRANZ being good at communicating research knowledge<sup>(1)(2)</sup>



NOTES:

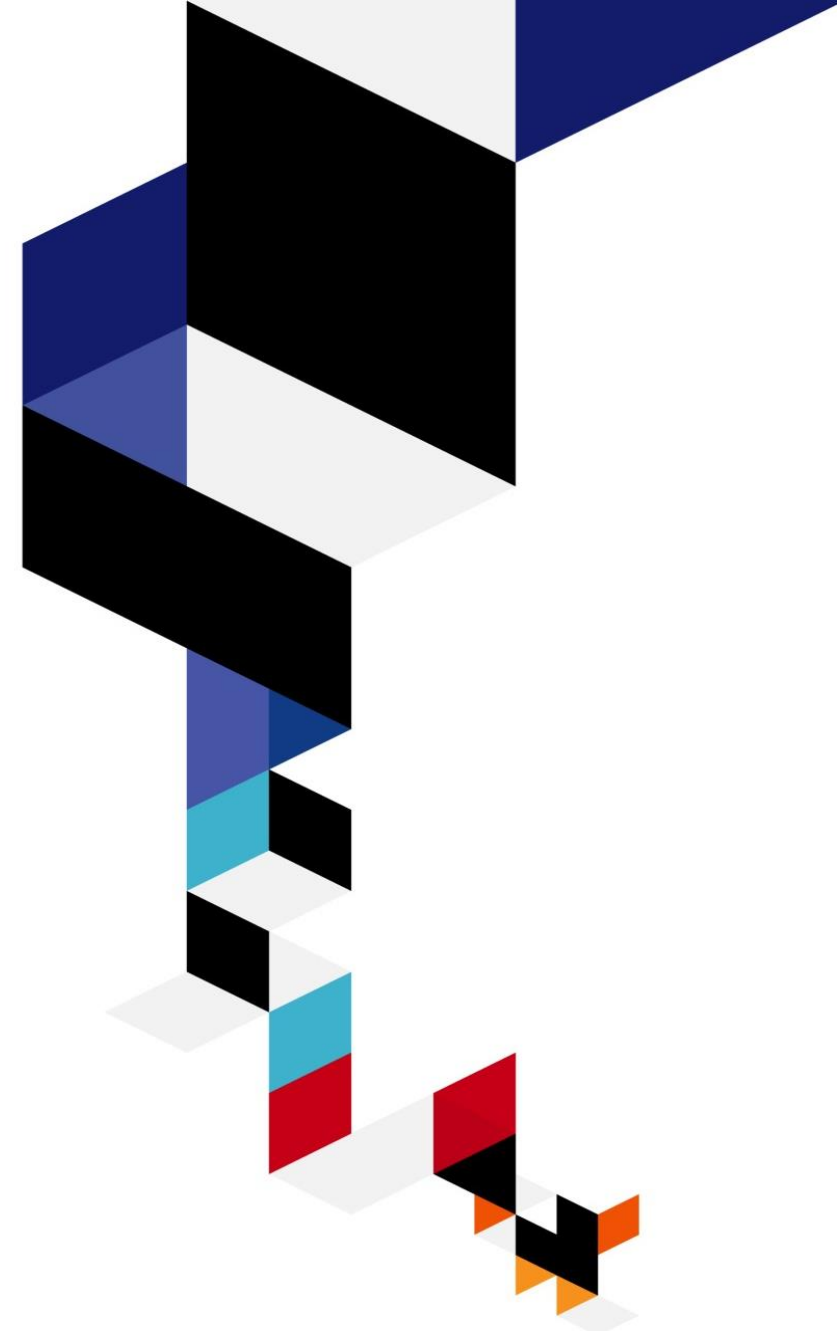
1. Sample size: Total n = 1,127, Architects / designers n = 317, Builders n = 337, Officials n = 131, Consultants / others n = 342
2. How good is BRANZ at selecting research projects that create new and valuable knowledge for the building & construction industry?

▲ Significantly higher than total  
▼ Significantly lower than total



# 4

## Appendix: technical information



# Technical notes

- The research was conducted between 11th October 2016 and 24th October 2016, with a small scale pilot of 50 interviews on 7<sup>th</sup> October. An online questionnaire was used which included all key industry sectors: builders, architects, designers, building officials, engineers, consultants and other members of the building and construction industry
- Lists of names and email addresses were provided by BRANZ for industry members sorted by the relevant industry groups.
- Two reminder emails (17<sup>th</sup> October and 21<sup>st</sup> October) were sent to respondents who had not yet completed the survey.
- Respondents were offered an incentive to complete the survey by way of a prize draw for one of three iPads
- A total of 1,127 responses were achieved representing a response rate of 7%. This response rate is lower than that achieved in 2014 when 1,077 responses were achieved representing a response rate of 11%. This decline in participation is likely a result of less time in field – the survey was open for 14 days this year compared to 29 days in 2014
- As participation in the survey is voluntary, there is potential for some groups to be over or under represented in the final data. For this reason work was undertaken to weight the final dataset to be reflective of the building industry population. The 2013 census occupation figures were used for this purpose
- The maximum expected margin of error (at 95% confidence) having taken into account the design effect from weighting the data to be representative of the population is +/- 3.7%. BRANZ can therefore be confident that despite the lower response rate, that the results of the study are highly representative of industry views and opinions

A total response of 1,127 completed surveys was achieved representing a response rate of 7%

### Response rates by group (based on sample lists)

Group	Completed	Sent	Response rate
Builders	377	7,131	5%
Building officials	111	765	15%
Designers	179	1,768	10%
Architects	123	1,789	7%
Consultants <sup>(1)</sup>	100	1,196	8%
Others	201	2,926	7%
Key stakeholders	36	527	7%
Total	1,127	16,102	7%

NOTES:

1. Consultants: includes engineers, building surveyors

The sample included a reasonably large number of responses for each of the key groups of interest

### Sample structure (based on stated occupation)<sup>(1)</sup>

Group	Responses	Proportion
Builders <sup>(2)</sup>	337	30%
Building officials <sup>(3)</sup>	131	12%
Architects	124	11%
Designers <sup>(4)</sup>	193	17%
Consultants <sup>(5)</sup>	127	11%
Others <sup>(6)</sup>	215	19%
<b>Total</b>	<b>1,127</b>	<b>100%</b>

NOTES:

1. Weighted to 2013 Census building industry occupation figures
2. Builders: includes builders, contractors and sub-contractors
3. Building officials: includes crown institute members, government department staff and local government personnel
4. Designers: includes draughts person and product specifics
5. Consultants: includes engineers, building surveyors
6. Others: includes educators and all others