



# BIM Acceleration Committee: Strategy January 2017

# Our goal

The BIM Acceleration Committee develops better building process for better building performance



There will be better building processes from:

- Awareness of what BIM is and it can do
- Use of BIM across the sector & supply chain
- Use BIM as a collaboration tool
- Use BIM at a detailed level
- Consistency in BIMs use
- BIM education and training

to build better performance in the design, construction, maintenance and operation of all constructed assets

# Framing the BAC strategy for 2017-2020

- Enables a greater and earlier co-operation between different disciplines on a project i.e. integrated project delivery (IPD)
- Applying for 3 more years funding from BRANZ (up to \$250k pa), MBIE (c.\$250k pa), Industry (c. \$750k pa in-kind)
- Support is strong given the record of success BAC has had
- The benchmark survey shows that projects involving some use of BIM has grown – 2014 = **35%**, 2015 = **45%**, 2016 = **55%** and 2017 forecast = **63%**
- The client survey has shown the majority of sites are managed with planned maintenance, but that BIM use is only 20%, the rest being bespoke or other enterprise resource planning management systems (i.e. SAP etc.)
- We are seeing a possible growth in a digital divide where some, notably large, firms embrace BIM, whilst the large number of, notably smaller, firms struggle to understand and implement it

# Expanded strategic focus for 2017 - 2020

## 1) **Conquer the digital divide to better enable BIM uptake for those smaller / further down the value chain**

- Test digital divide through a survey
  - understand cohort
  - identify next targets
  - understand options
- Respond to results of survey. Depending on the outcomes this could include:
  - focus on barriers to BIM use i.e.
    - sandpit and practical ways of introducing BIM cost effectively
    - BIM object libraries/ary
    - greater dissemination of BIM benefits
      - BIM networks
      - continue informing the market
  - how best to reach / engage / influence those smaller and/or down the value chain

## 2) **Trained resource readily available to build BIM expertise in industry and tertiary education**

- cross disciplinary training
  - industry / on the job training modules
  - technical courses
  - coordinated tertiary education

# ... continued

## 3) More demand pull by informed clients

- Government as a client (and selected large clients) continues
  - consider an audit / evaluation tool
  - continue activities to have BIM specified and training in how to procure BIM assets
  - continue to make it easy for government to specify BIM
- Understand BIM benefits for facilities management (FM) and asset management (AM)
  - in depth research of FM/AM 'experts'
  - synthesise outcomes for prospective strategies

## 4) Increased support for collaboration to maximise the benefits of BIM use

- increased rewards from collaboration for using BIM
- implications from procurement method and what is specified

## 5) Interoperable and reliable data along the value chain (quality and standards)

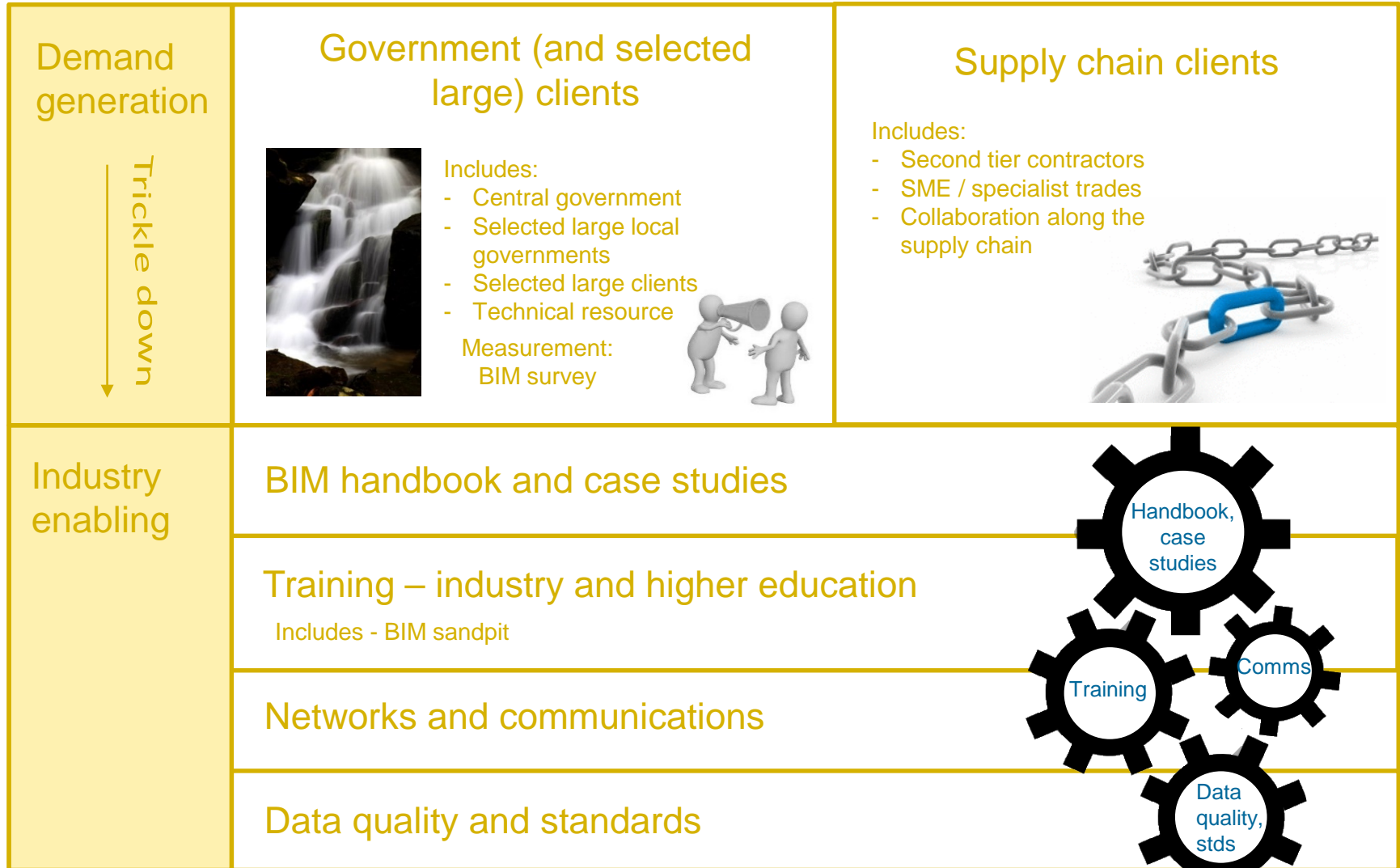
- understand issues around data ownership and liability
- continue to ensure interoperability of systems
- clarify the barrier(s) faced and how to overcome these



## 6) Telling the BIM story to existing and new audiences

- implement the BIM 'brand cause': short statement developed outlining the benefits of BIM
- communicating the BAC role, where we're going and why

# Strategies 2017 – 2020



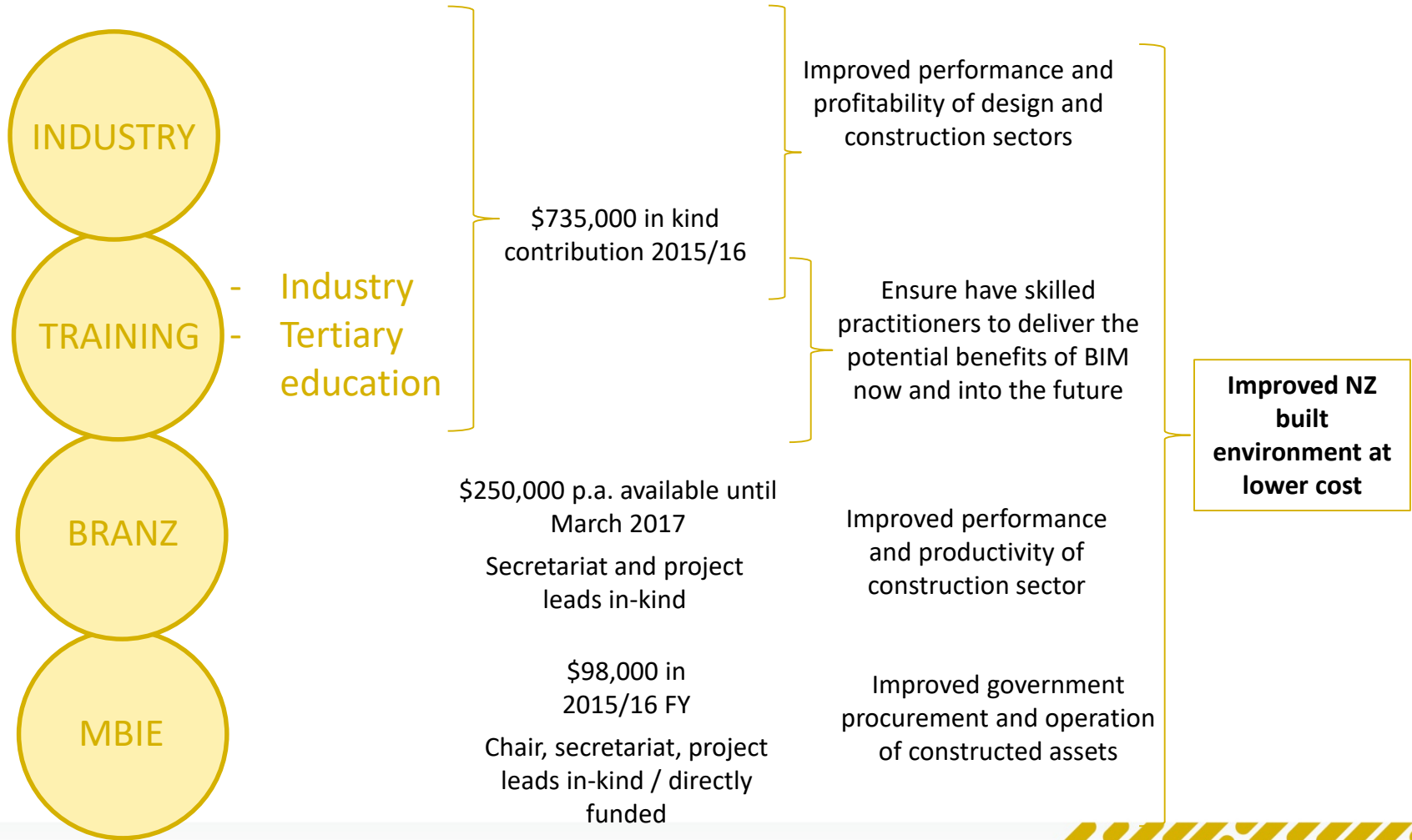
BIM: better building process – building better performance

# Appendix A

## Previous Strategic Outcomes and Options 2016



# Our contributions and objectives





# Collateral 2013 - 2016

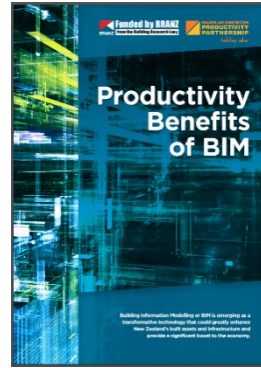
## Handbook



## Case studies



## Productivity benefits



## Survey



## Networks



## Industry training



### BRE course attendees

Auckland 1	31
Auckland 2	32
Wellington	28
Christchurch	30

### BIM 101 attendees

Total	871
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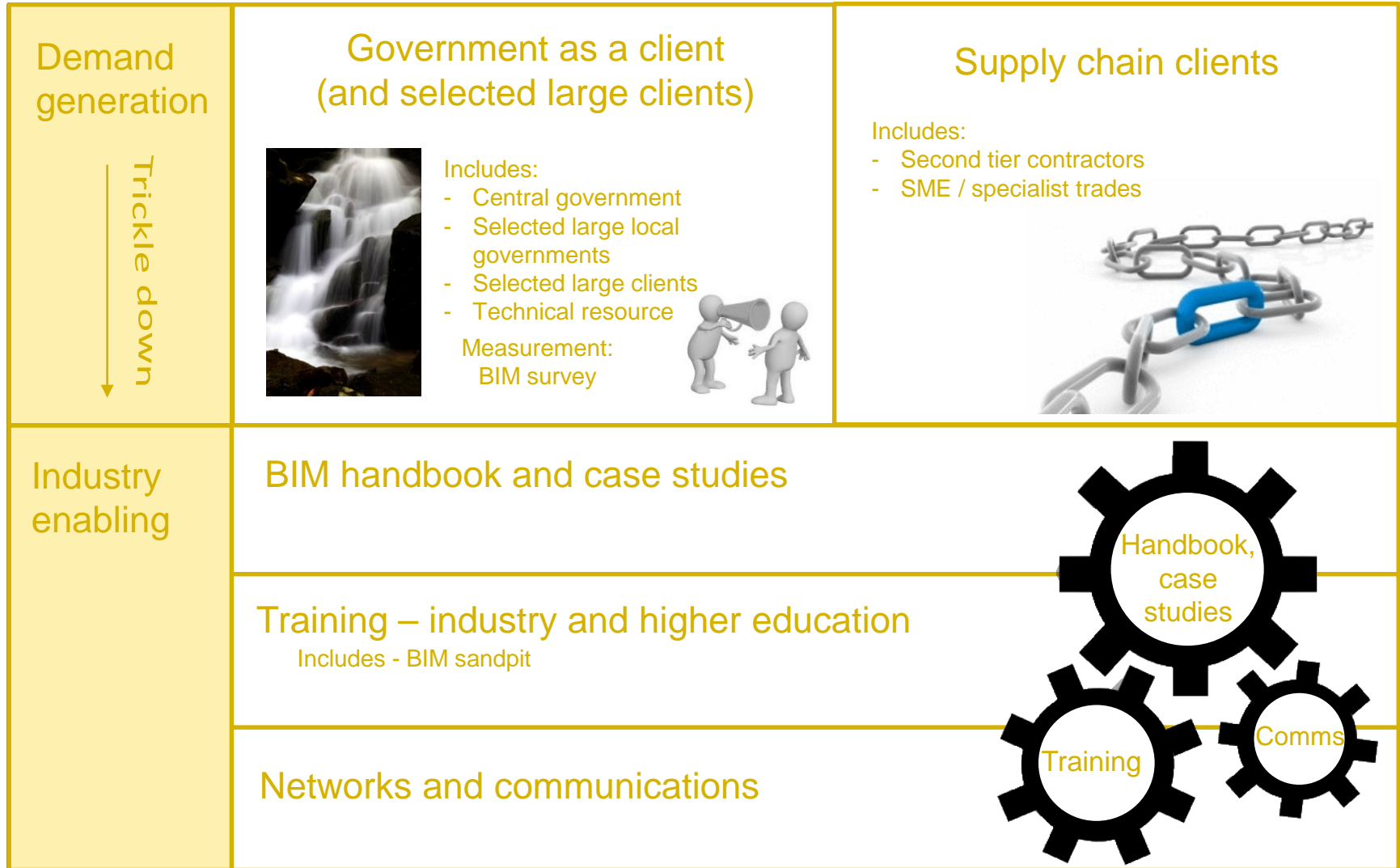
## Government as a client report



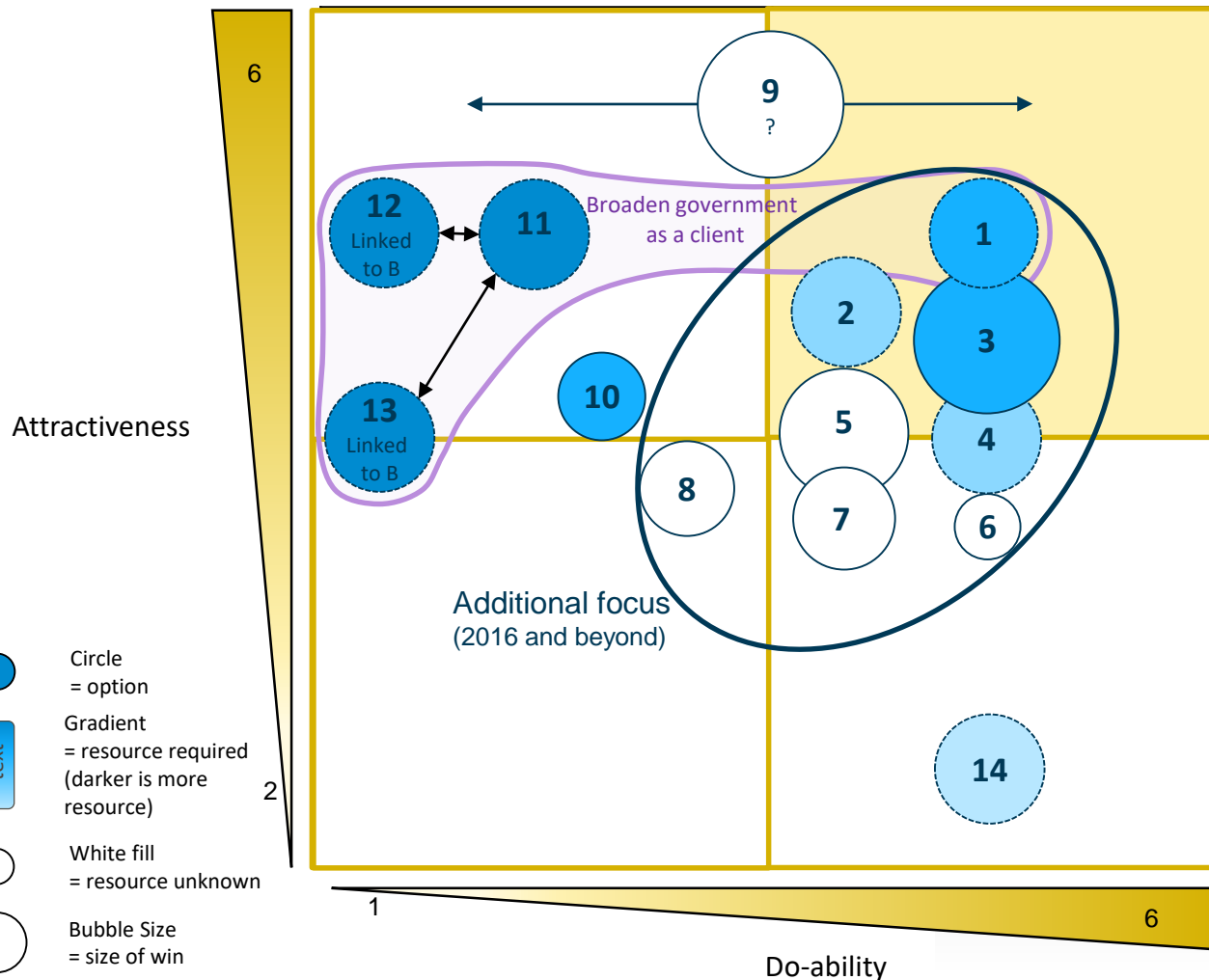
## BIMinNZ views: 3.5 months from 1 October 2016 – 18 January 2017

Total visitors	1,265
Total unique visitors	929
Homepage	421
BIM tools (including handbook, handbook appendices, productivity benefits)	178
Network events	152
Case studies	141
News	121
Committee	103
About us	96

# 2016 strategy



# 2016 option analysis - revise or expand on the existing strategies



Key of	
1	Selected local government
2	BIM sandpit
3	Technical resource
4	Simple contract documentation for data transfer - via CIC guidelines
5	Certification of BIM training - via industry training project
6	BIM brief contractor to specialist trades
7	Second tier contractors
8	SME / specialist trades
9	Change culture to collaborative and using BIM
10	AM/FM benefits
11	Procurement process
12	Roading learnings
13	De-risk / soft landings
14	ID transferrable skills

# Option analysis

## - Government as a client (and selected large clients)

Option	Attractive (1 not – 6 very)	Do-able (1 hard – 6 easy)	Resource required (\$ or in-kind)	Size of win (estimated relative \$ value to industry)	BAC summary	BAC focus?
Broaden target to selected local government	5	5	\$60K + Gleb + BAC	>\$1 billion	This would use the process for central government clients. Need to firm up measures of success and how to benchmark.	✓
Technical resource	4 – 5	5	\$5K + \$50K p.a.	Included in above	Part of the plan for central government so relatively easy to expand to local government and selected large clients	✓
Procurement process	5	1 – 2	\$120K + Gleb + BAC	>\$1 billion	Not convinced how much traction or inroads into procurement BAC could foreseeable succeed with. Seen as a collective responsibility.	✗
De-risk / soft landings (maps into procurement)	4	1	Part of procurement	>\$1 billion	There are models, e.g. in the UK, but this hasn't been a success internationally. Would need to see the lessons learned from the UK and build on.	✗
Roading learnings (maps into procurement) <i>How much could apply elsewhere?</i>	5	1 – 2	Part of procurement	>\$1 billion	Attractive with good benefits but there are difficulties in getting traction in the international market	✗
AM/FM benefits	4 – 5	2 – 3	\$60K + Gleb + BAC	? >\$50 million	There's a link to the metadata standards work. The BAC recognised its role is to make it easy to use the data rather than focus on. There is a shift to this in industry but a passive role for the BAC by ensuring the systems are set up well. Internationally the target is pre-AM/FM.	✗

Same  
\$1 billion

# Option analysis

## - Supply chain clients

Option	Attractive (1 not – 6 very)	Do-able (1 hard – 6 easy)	Resource required (\$ or in-kind)	Size of win (estimated relative \$ value to industry)	BAC summary	BAC focus?
BIM sandpit (maps into SME/specialist trades)	5	4 – 5	? Until know tactics \$50K to buy access	?	An exciting and worthwhile option. Will need to ensure consistency with the BAC and the message the BAC is delivering. The target audience, focus and tactic to get messages across will need to be refined. UoA and AUT have potential facilities already / underway.	✓ ✓ But through BIM education group
Second tier contractors, prioritise where strong vertical integration. <i>Need tactics to achieve</i> Target = next 50 biggest	3 – 4	4 [sandpit]	? Until know tactics	\$300 million (20% of 50 x 50m)	There's a desire to also focus on second tier contractors as a client.	✓
SME / specialist trades <i>Awareness / prepared to participate</i>	3 – 4 Sequencing?	3	? Until know tactics	150 million (half of above)	There's a desire to also focus on SME / specialist trades as a client.	✓
BIM brief contractor to specialist trades	3	5	BAC + publish / share	\$10 million ? + awareness	Could be covered in BIM handbook.	X

# Option analysis

## - Comms, training / education, industry enabling

Option	Attractive (1 not – 6 very)	Do-able (1 hard – 6 easy)	Resource required (\$ or in-kind)	Size of win (estimated relative \$ value to industry)	BAC summary	BAC focus?
Awareness raising tactics					<b>This underpins everything the BAC is doing. The comms plan will be strengthened.</b>	✓
Identify transferrable skills <i>But what then?</i>	2	5	\$20K	?	This will be included in the education workstream rather than a BAC focus. It will take place if and when they are deciding on a common curricula.	X (via education group)
Certification of BIM training	4	4	Tertiary education coordination uni's, ITOs...	High (a desired output from existing project)	To seed if there is a need from industry it will be included in the next benchmark BIM survey. If there is the desire, it will be part of the industry training workstream. Seen as a longer term goal.	X (via training)
Simple contract documentation / disclaimers on how to transfer data across stages of construction	4	5	\$50K	Reputation enabler	The conversation arose out of the CIC guidelines update and so might be included in the CIC BIM overlay. It's seen as something that will enable spread of BIM within industry.	X (via CIC guidelines)
Identify maturity / broaden target firms					Can't influence directly	X
Understand IT literacy	0	6	0	0	This will happen anyway.	X
Change culture to collaborative and using BIM <i>Everything feeds into this</i>	6	2-5	? Rest of strategy	>\$1 billion	Recognised as very attractive but not a mammoth and variable task so not a focus for the BAC. BIM as a conduit to a collaborative culture.	X



# 1 year on, progress against 2016 options

Option	BAC summary	BAC focus? (determined Jan 2016)	Worked on?
Broaden target to selected local government	This would use the process for central government clients. Need to firm up measures of success and how to benchmark.	✓	✓
Technical resource	Part of the plan for central government so relatively easy to expand to local government and selected large clients	✓	X
Procurement process	Not convinced how much traction or inroads into procurement BAC could foreseeable succeed with. Seen as a collective responsibility.	X	Somewhat
De-risk / soft landings (maps into procurement)	There are models, e.g. in the UK, but this hasn't been a success internationally. Would need to see the lessons learned from the UK and build on.	X	X
Roading learnings (maps into procurement) <i>How much could apply elsewhere?</i>	Attractive with good benefits but there are difficulties in getting traction in the international market	X	X
AM/FM benefits	There's a link to the metadata standards work. The BAC recognised its role is to make it easy to use the data rather than focus on. There is a shift to this in industry but a passive role for the BAC by ensuring the systems are set up well. Internationally the target is pre-AM/FM.	X	Somewhat
BIM sandpit (maps into SME/specialist trades)	An exciting and worthwhile option. Will need to ensure consistency with the BAC and the message the BAC is delivering. The target audience, focus and tactic to get messages across will need to be refined. UoA and AUT have potential facilities already / underway.	✓ ✓ BIM education group	Somewhat
Second tier contractors, prioritise where strong vertical integration. <i>Need tactics to achieve</i> Target = next 50 biggest	There's a desire to also focus on second tier contractors as a client.	✓	X
SME / specialist trades <i>Awareness / prepared to participate</i>	There's a desire to also focus on SME / specialist trades as a client.	✓	Somewhat
BIM brief contractor to specialist trades	Could be covered in BIM handbook.	X	X



# 1 year on, progress against 2016 options continued...

Option	BAC summary	BAC focus? (determined Jan 2016)	Worked on?
<b>Awareness raising tactics</b>	<b>This underpins everything the BAC is doing. The comms plan will be strengthened.</b>	✓	Somewhat
Identify transferrable skills <i>But what then?</i>	This will be included in the education workstream rather than a BAC focus. It will take place if and when they are deciding on a common curricula.	X (via education group)	X
Certification of BIM training	To seed if there is a need from industry it will be included in the next benchmark BIM survey. If there is the desire, it will be part of the industry training workstream. Seen as a longer term goal.	X (via training)	X
Simple contract documentation / disclaimers on how to transfer data across stages of construction	The conversation arose out of the CIC guidelines update and so might be included in the CIC BIM overlay. It's seen as something that will enable spread of BIM within industry.	X (via CIC guidelines)	✓
Identify maturity / broaden target firms	Can't influence directly	X	X
Understand IT literacy	This will happen anyway.	X	X
Change culture to collaborative and using BIM <i>Everything feeds into this</i>	Recognised as very attractive but not a mammoth and variable task so not a focus for the BAC. BIM as a conduit to a collaborative culture.	X	X

Plus			
Metadata standards	Through LINZ Better Business Case		✓
BIM handbook revision	Published November 2017		✓
BIM and computer aided manufacture / fabrication	Traffic contracted to deliver supply chain clients project to accelerate BIM use for technology assisted fabricated components		✓

# Appendix B – An international example

Alignment of BAC strategy to the World Economic Forum findings

- [http://www3.weforum.org/docs/WEF\\_Shaping\\_the\\_Future\\_of\\_Construction\\_full\\_report\\_\\_.pdf](http://www3.weforum.org/docs/WEF_Shaping_the_Future_of_Construction_full_report__.pdf)
- Pages 24 - 25

*“Prior to achieving large-scale implementation and all the potential benefits of BIM, however, various obstacles must be overcome”...*

Obstacles to overcome to achieve large-scale implementation and all the potential benefits of BIM	BAC method	Outcomes
Implementing BIM, within a company and industry-wide, requires a considerable <b>build-up of expertise</b> , especially appropriate employee training and substantial IT upgrading. Small companies will find that especially challenging, as they might struggle to afford the upfront investments	Education and training	A skilled and resourced industry
<b>Technological standards</b> have to be in place and interoperability must be ensured, so that the various stakeholders can share information and cooperate on planning	Data standards for interoperability	Agnostic standards used across NZ
<b>Project owners</b> will be slow to adopt the technology until they acquire a greater understanding of the <b>benefits of BIM</b> for them	Government (and selected large) clients	Informed clients who can procure BIM
In BIM, data is created and shared in a more collaborative way, which leads to further issues regarding <b>data ownership and liability</b>	<i>New BAC project to begin in 2017</i>	Quality data to benefit all participants
The benefits of large-scale BIM can only be realized when all <b>participants along the value chain</b> get involved; without this interlinking effect, there is little benefit for the first movers	Supply chain clients	All participants along value chain are using BIM

Source: Shaping the future of construction, World Economic Forum report (2016)