New Zealand National BIM Survey 2012

Masterspec - Construction Information Limited

masterspec

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Masterspec

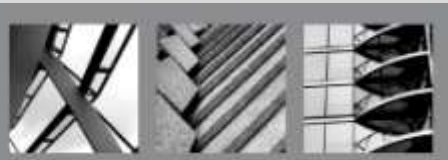
Owned by New Zealand industry organisations:

Provide independent, relevant and maintained documentation to the New Zealand construction industry, including:

- Masterspec specification systems
- Miproducts: New Zealand's extensive building product database
- New Zealand's classification system 'CBI' (Coordinated Building Information)
- Online library of more then 1,500 construction related Standards
- Industry resources, including CIC documentation guidelines

'Industry-good' mandate to improve best-practice in the building and construction industry, including:

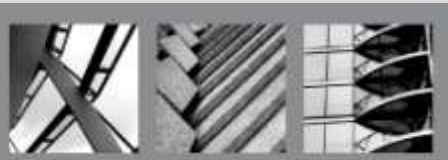
- Support industry in introduction of cooperative BIM protocols and relevant tools



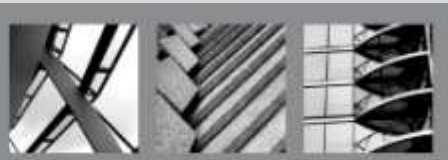
National Building Information Modelling (BIM) Survey 2012

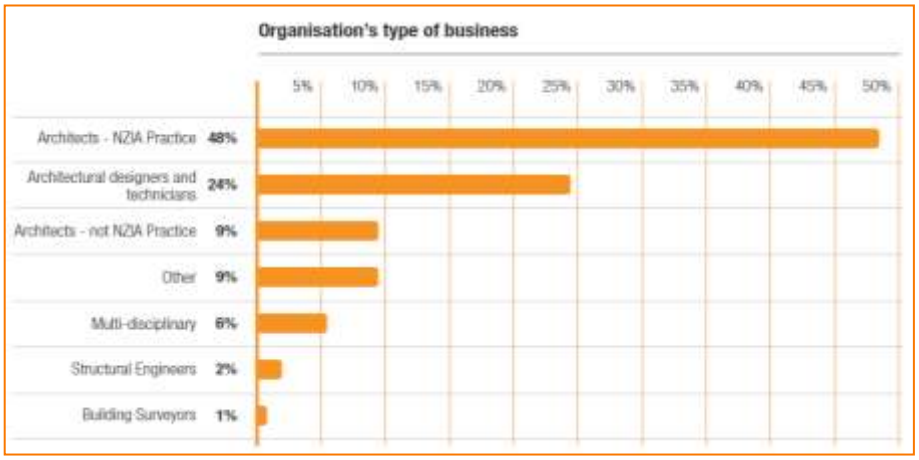
The aims

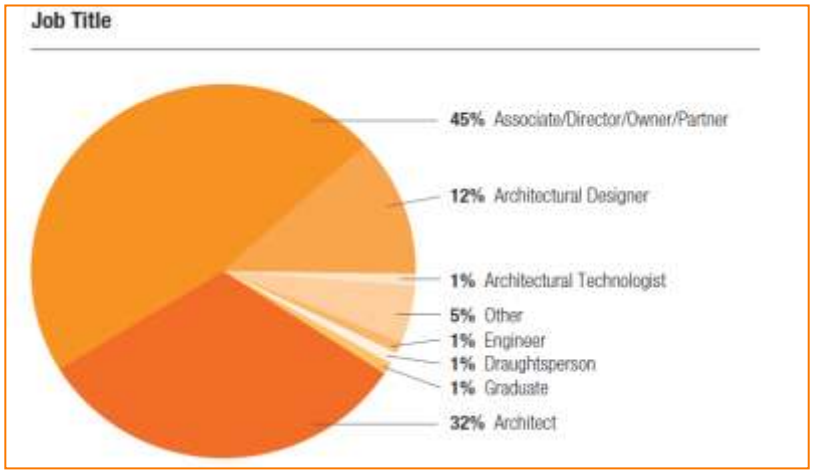
- Understand the present day attitudes and progress made towards Building Information Modelling (BIM) in New Zealand
- Based on factual data, establish a dialogue with industry partners to assist the industry's adoption of BIM
- Provide factual market data for the Masterspec NextGen project linking specifications with CAD/BIM

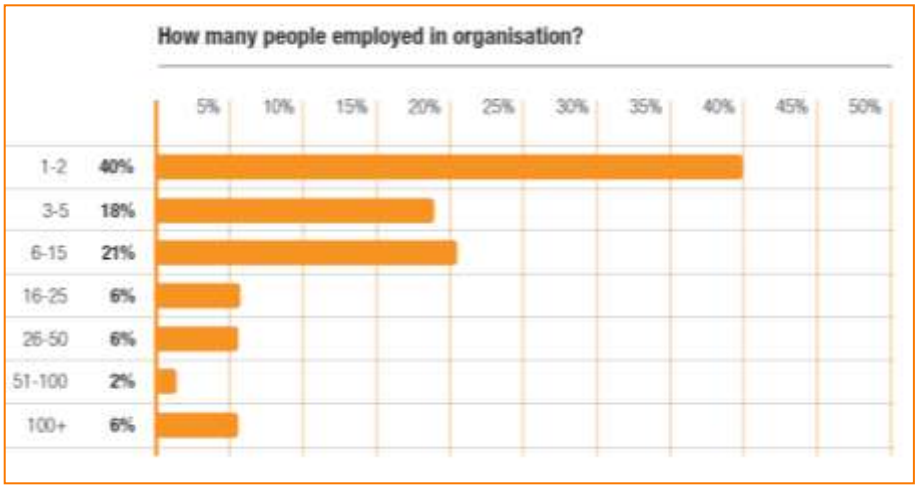


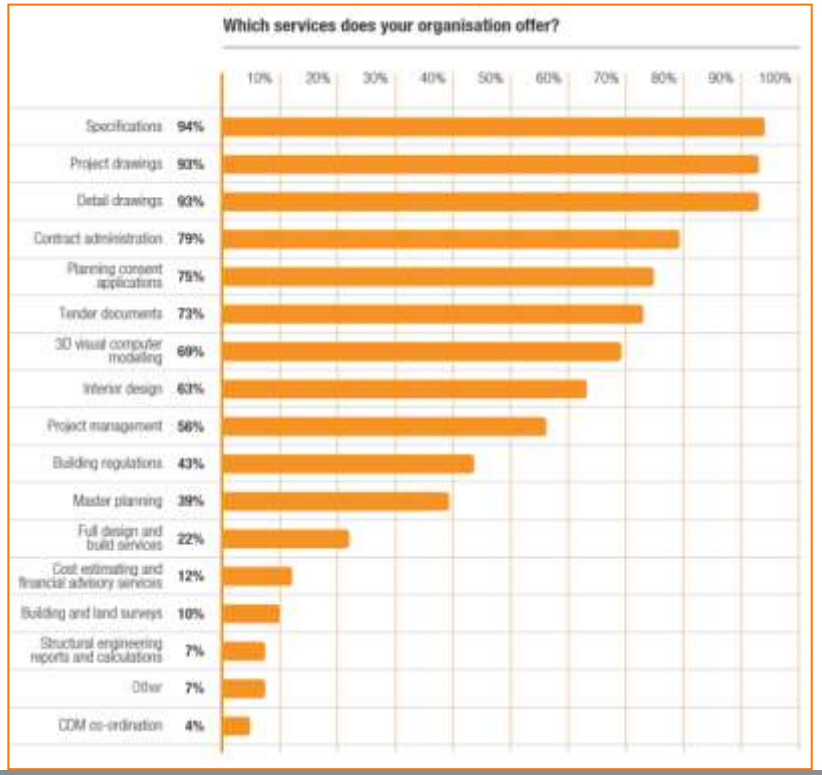
The BIM survey participants







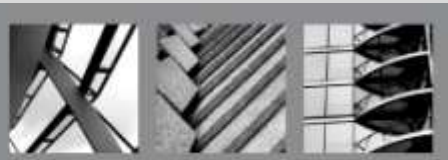


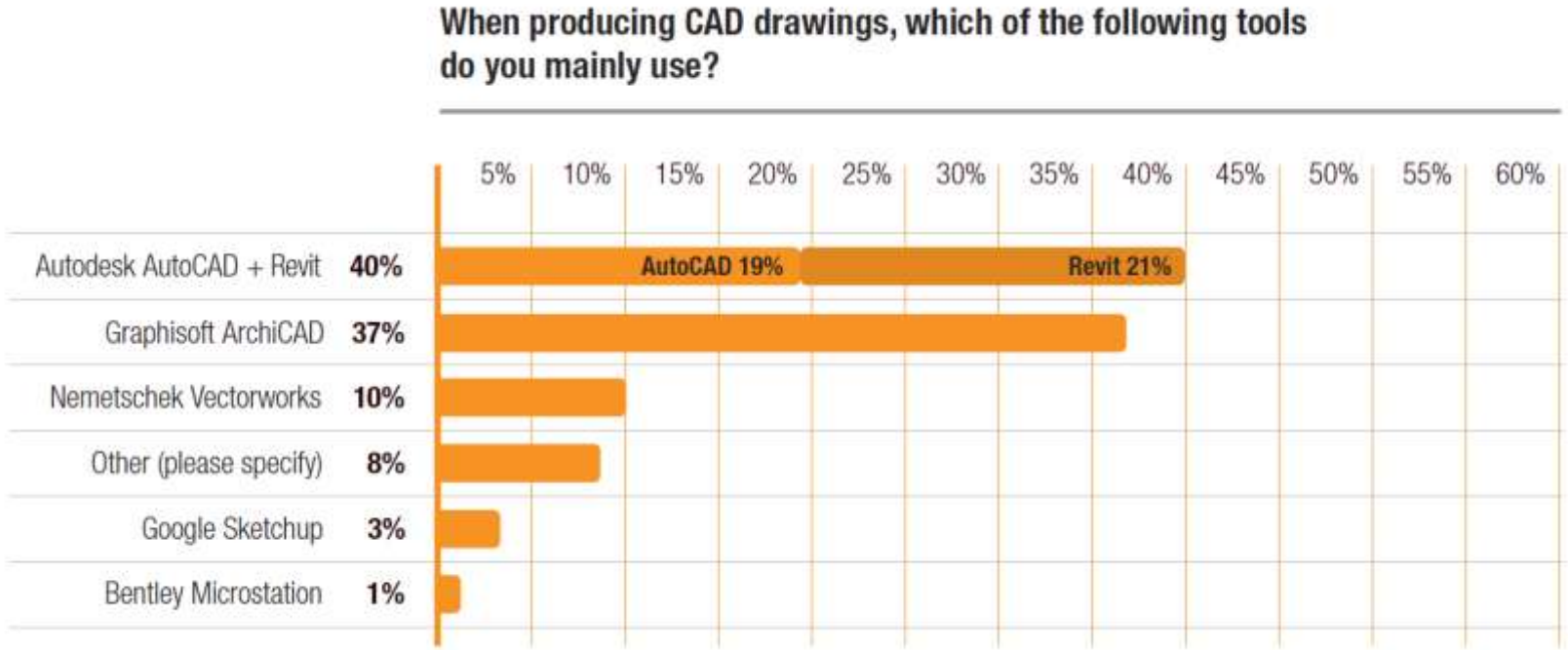


Survey participants

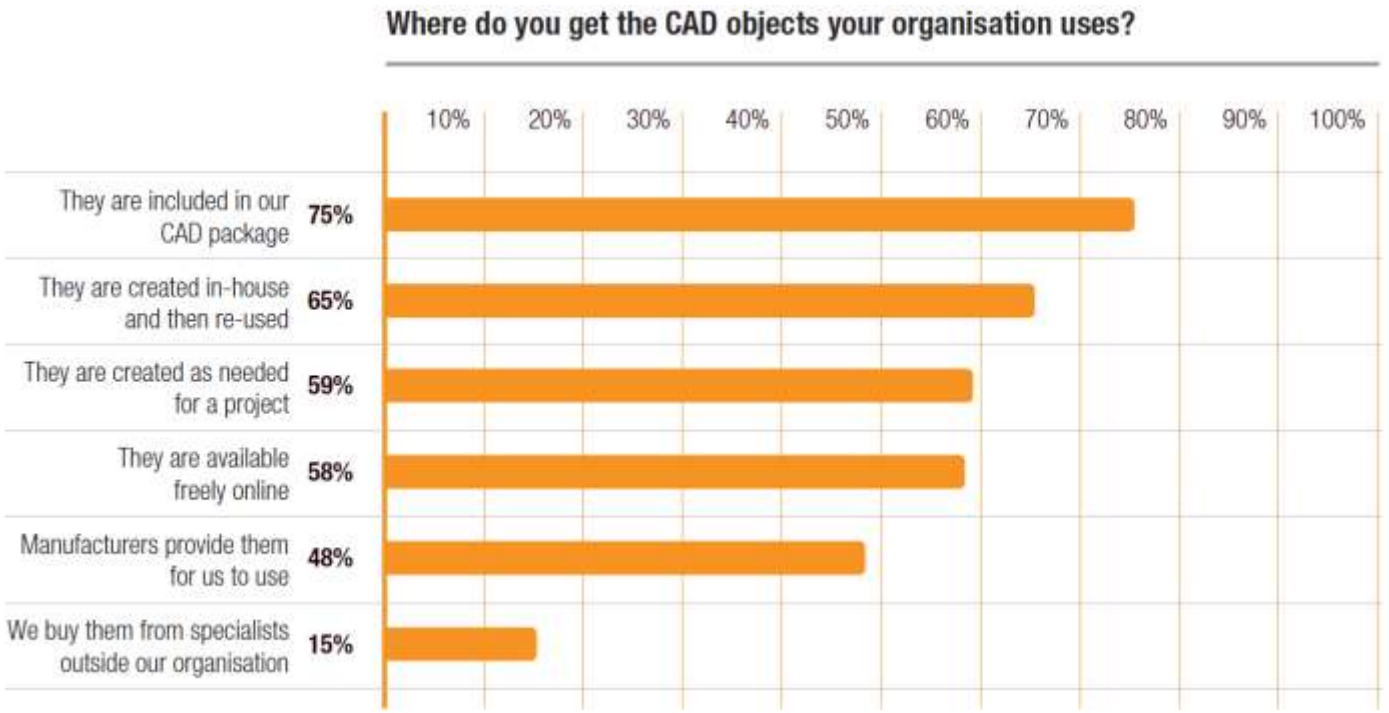
524 industry professionals

Survey results: CAD systems



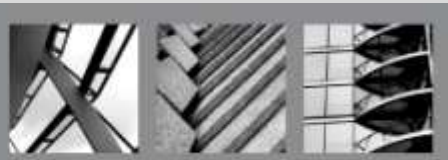


- A range of different CAD software is used
- Graphisoft's *ArchiCAD* and Autodesk's *Revit* have the largest share

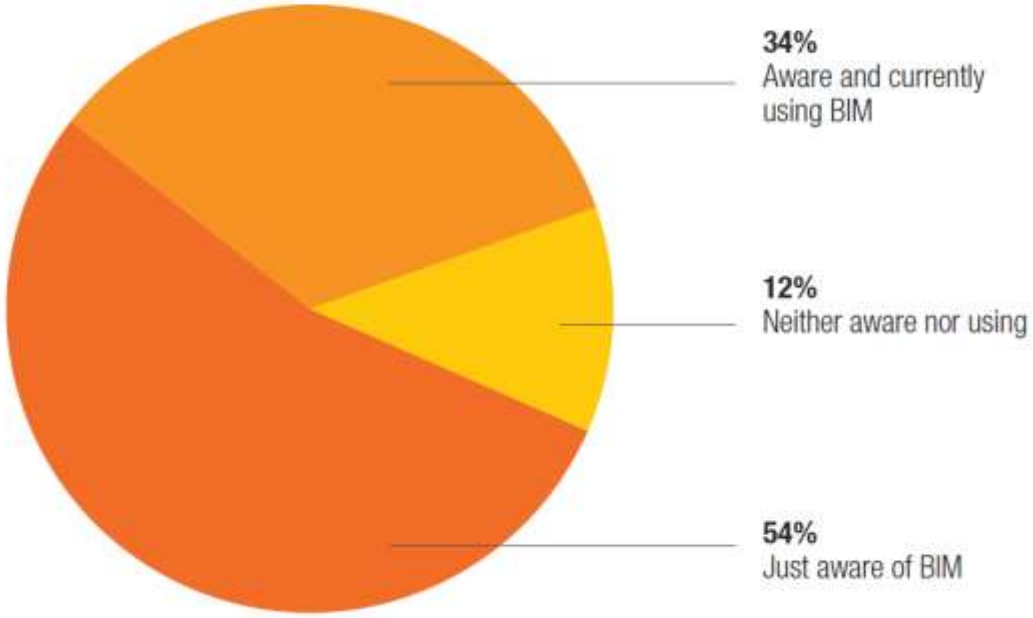


- CAD objects are obtained from a multitude of sources
- Different design standards, quality standards, classification coding and parametric data

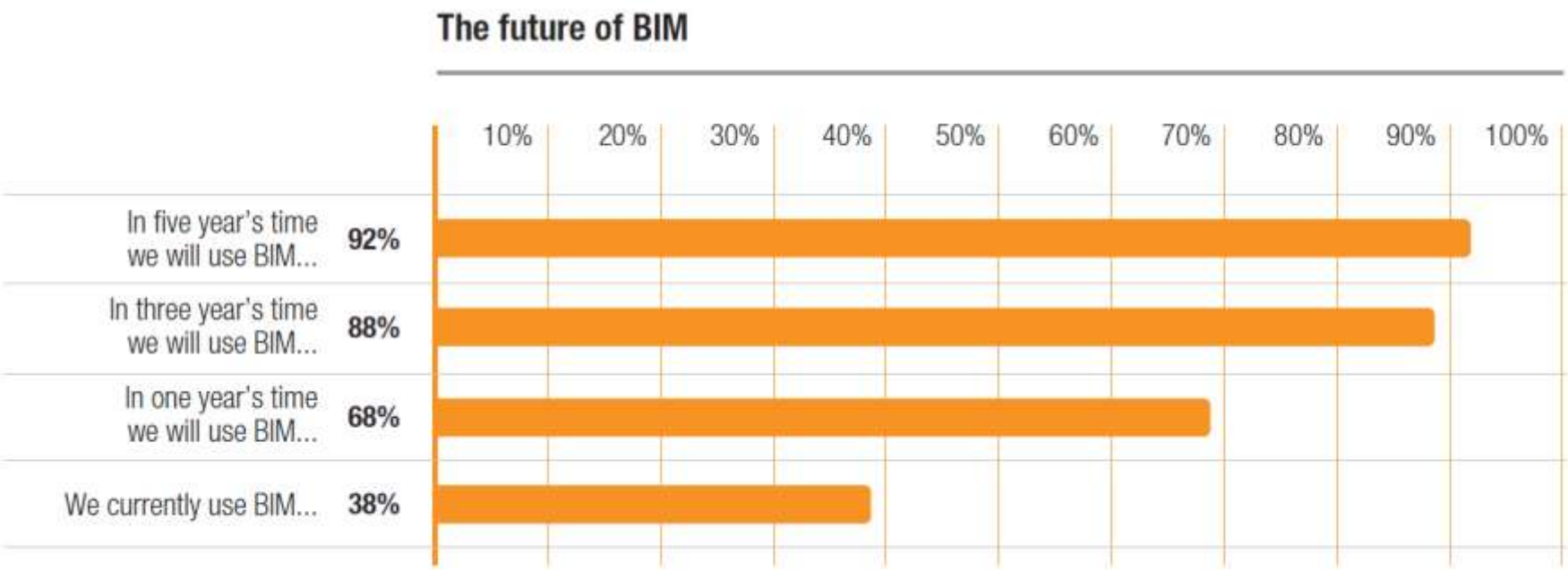
Survey results: The mandate for BIM



Awareness and use of BIM



- A high awareness of BIM (88%)
- A relatively high usage of BIM



- A real mandate for BIM technology

‘Describe what you understand BIM to be’

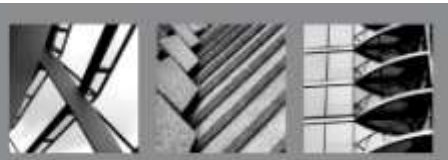
This was a qualitative question placed to the respondents. The answers were then placed into four categories:

This indicates that:	
1	1/10 respondents don’t know or don’t understand what BIM is
2/3	6/10 respondents have some understanding of BIM
4	2/10 have a reasonable appreciation of the potential of BIM
5	1/10 have a clear appreciation of the advantages of BIM.

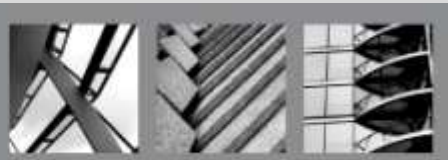
Is using 3D CAD BIM?

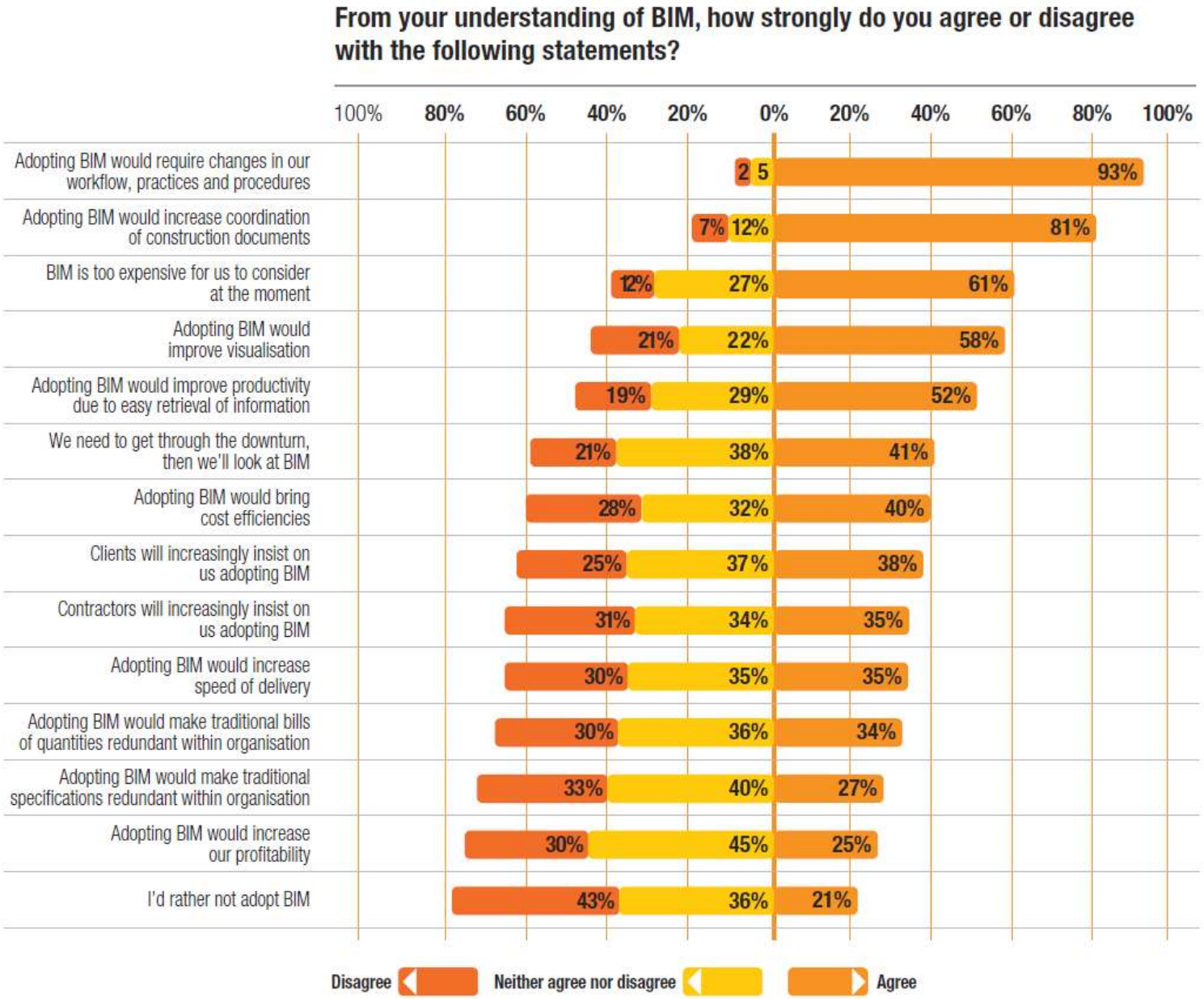
BIM

Digital representation of the building process, to facilitate the exchange and interoperability of information in digital format

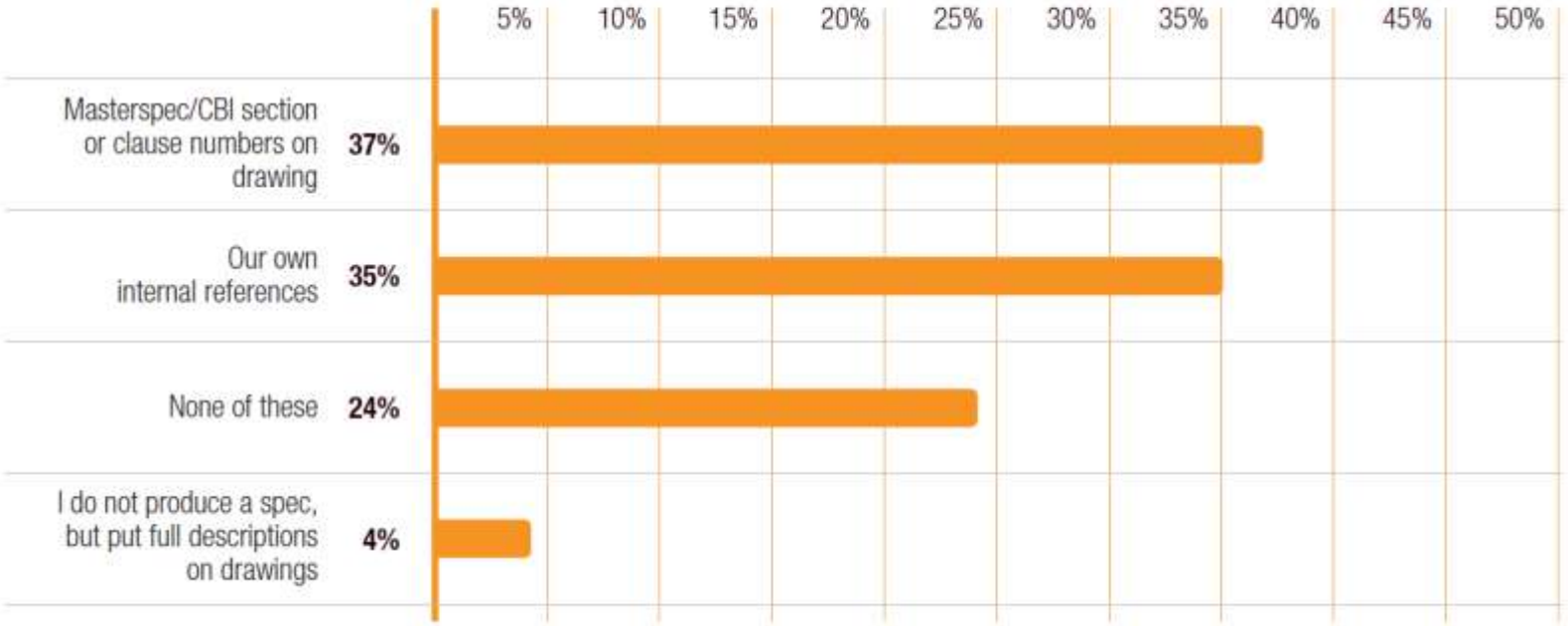


Survey results: BIM considerations

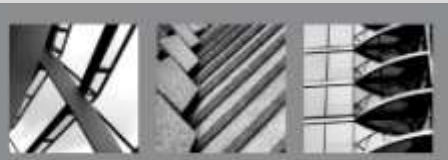



From your understanding of BIM, how strongly do you agree or disagree with the following statements?
100% 80% 60% 40% 20% 0% 20% 40% 60% 80% 100%
Adopting BIM would require changes in our workflow, practices and procedures
2 5 93%
Adopting BIM would increase coordination of construction documents
7% 12% 81%
BIM is too expensive for us to consider at the moment
12% 27% 61%
Adopting BIM would improve visualisation
21% 22% 58%
Adopting BIM would improve productivity due to easy retrieval of information
19% 29% 52%
We need to get through the downturn, then we'll look at BIM
21% 38% 41%
Adopting BIM would bring cost efficiencies
28% 32% 40%
Clients will increasingly insist on us adopting BIM
25% 37% 38%
Contractors will increasingly insist on us adopting BIM
31% 34% 35%
Adopting BIM would increase speed of delivery
30% 35% 35%
Adopting BIM would make traditional bills of quantities redundant within organisation
30% 36% 34%
Adopting BIM would make traditional specifications redundant within organisation
33% 40% 27%
Adopting BIM would increase our profitability
30% 45% 25%
I'd rather not adopt BIM
43% 36% 21%
Disagree
Neither agree nor disagree
Agree

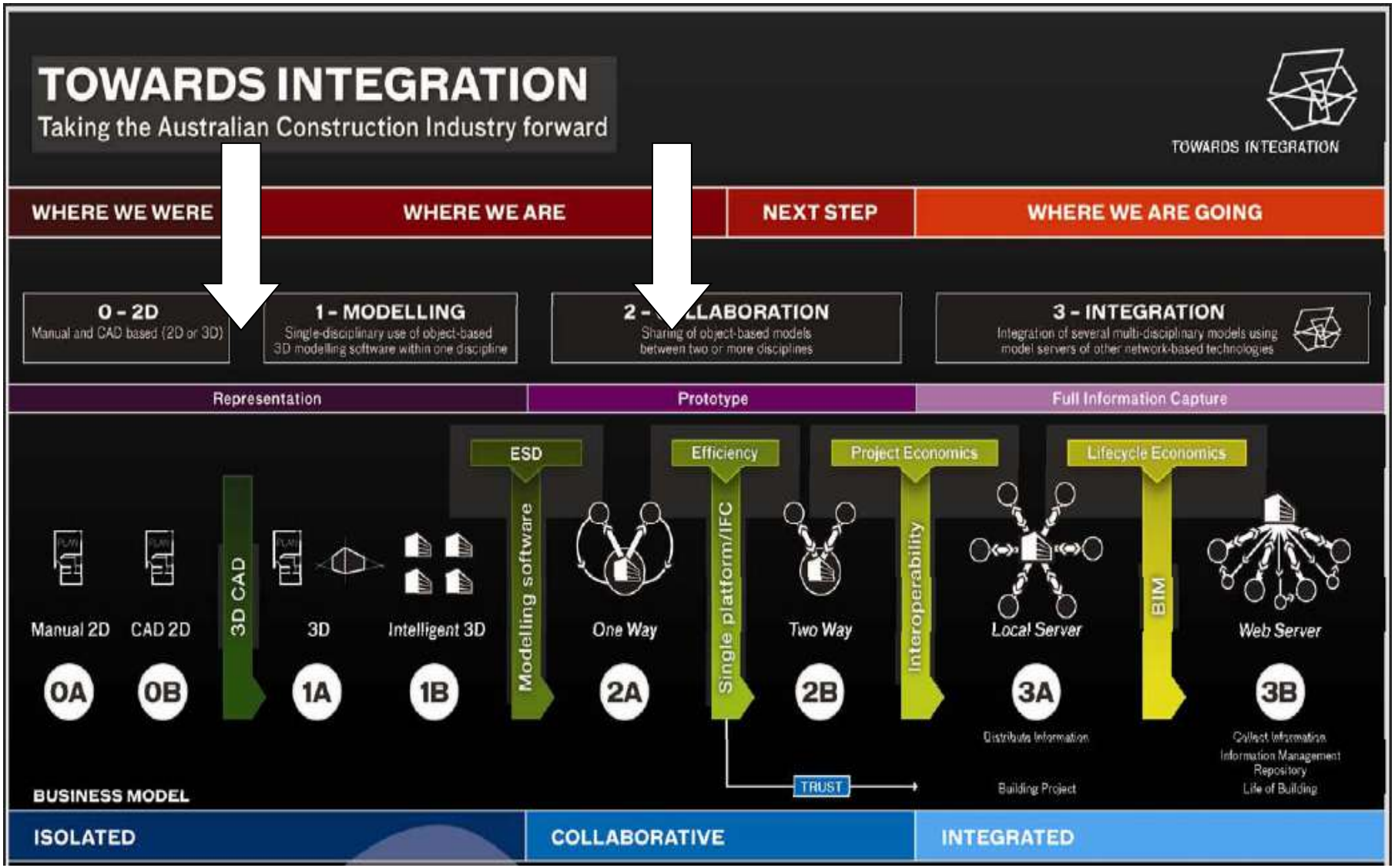
How does your organisation coordinate the information in your CAD model and your specification?



BIM survey: Conclusions and next steps



The current position of the industry



Conclusions

1. **POTENTIAL** - A growing sector of the industry is beginning to see the potential of BIM technology and have started / expect to start using BIM in near future

2. **WIDE SPECTRUM OF INTERPRETATION** - Currently, the term 'BIM' has a wide spectrum of different meanings, both in understanding and application

3. **BLEEDING EDGE** - Serious NZ early BIM adopters often operate in small clusters on individual projects using different protocols and tools (with limited reusability)

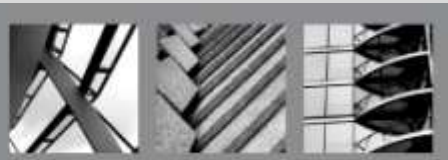
4. **LONELY BIM?** - BIM as a stand-alone-technology ('Lonely BIM') offers limited value

5. **INTEROPERABLE BIM** - By and large, the industry is still operating with separate information silos rather than connected information.

   Quality and efficiency gains are potentially substantial with an interoperable BIM.

   The 'elephant in the room' is INTEROPERABILITY

   Nationwide protocols and tools for interoperable BIM aren't set up in New Zealand preventing the industry to connect, share and exchange data in an efficient and consistent way.



Building Information Modelling and Interoperability

- **Interoperability between software from same vendor**

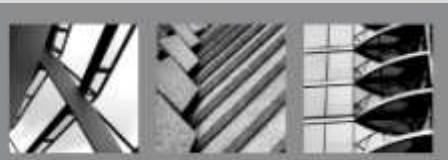
  e.g. Architect, service engineer and structural engineer working all in separate 3D models in Autodesk Revit, Version 2012.

- **Interoperability between software from different vendors**

  e.g. Coordinating drawings and specification using Coordinated Building Information (CBI) classification coding.

- **Interoperability through open data standards**

  e.g. Designing with IFC (Industry Foundation Classes) - Standards allowing then to connect to related data, such as cost or specification, which are also defined in IFC Standard format.



Next steps

1. **The industry must collaborate and share resources to realise the full benefits of BIM-based technology.**

   Requires broad industry support – leaving it to a private commercial organisation might not be the best approach.

2. **Addressing the roadblocks to interoperability**

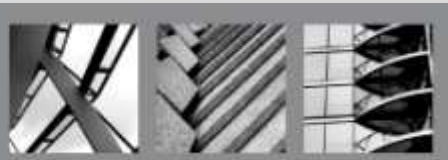
   - Begin development of national guidelines for digital modelling
   - Establishing a national neutral classification system for BIM objects
   - Set up a national library of neutral BIM objects

3. **Addressing roadblocks to cooperation**

   - Development of new forms of contracts to suit new ways for designers and contractors to work together
   - Addressing insurance issues for a new collaborative way of working

4. **Industry education and training**

   BIM survey has highlighted the need for industry education and training.



What is Masterspec doing to support the industry's move to an interoperable Building Information Modelling?

1. Masterspec NextGen

Masterspec has worked for last 12 months on transferring its full specification system contents to a powerful web-based database. This represents a suitable platform for future connectivity to BIM objects and models.

2. Partnering with overseas industry organisations similar to Masterspec

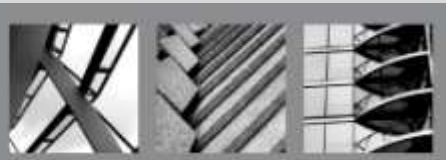
such as NBS (UK), Natspec (Australia), Arcom (US), to take advantage of work already done overseas

3. Partnering with NZ industry organisations and knowledge experts

to develop the required protocols, frameworks and tools for the industry's move to interoperable BIM.

Discussion have started with:

- Productivity Partnership (Government – construction industry initiative to increase productivity by 20% in 2020),
- CAD software providers
- CAD/BIM object developers
- Industry organisations
- Leading design organisations.



Full survey report is available from

www.masterspec.co.nz