

TOWARDS 3D AS-BUILT – WHAT SAY THE PROFESSIONALS?

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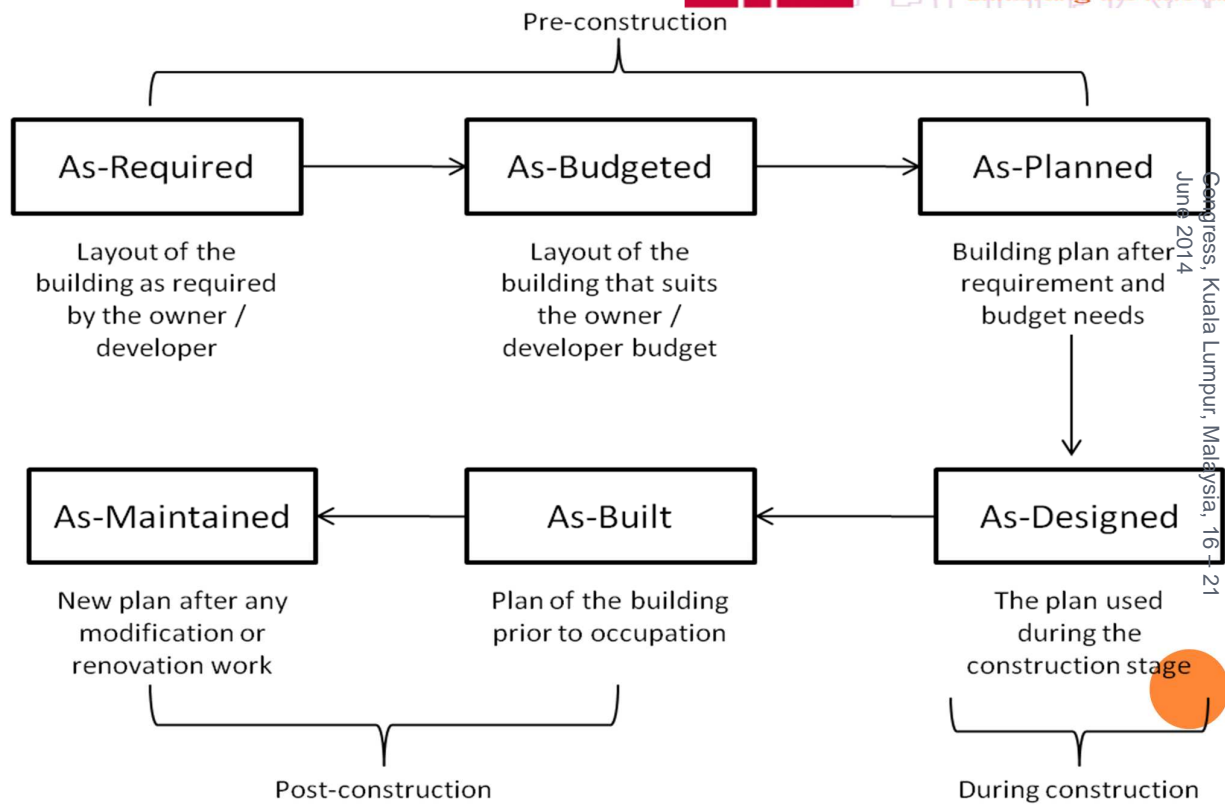


OUTLINE

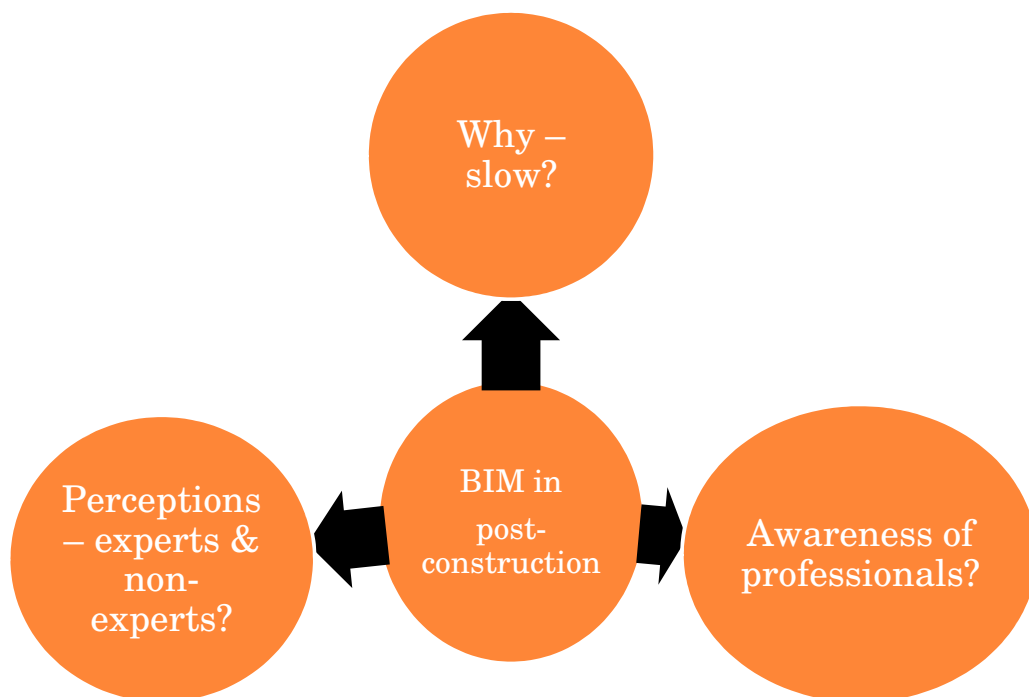
- Introduction
- Survey Preparation
- The Respondents
- Results and Discussions
- Conclusion



INTRODUCTION



INTRODUCTION



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SURVEY PREPARATION

○ Research questions:

- 1) How much awareness do related professionals have of 3D as-built design and development?
- 2) What are the limitations of current approach in developing 3D as-built that can be overcome?

SURVEY PREPARATION

○ Drafting and designing the questionnaire:

- 1) Background of respondents
 - 2) The awareness of respondents
 - 3) Recent methods in developing 3D as-built
- Pilot study – specialist and non-specialist

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SURVEY PREPARATION

○ Potential respondents:

Applications	Areas	Related Professionals
Engineering (building extraction, reconstruction of industrial sites, structural monitoring and change detection, corridor mapping)	AEC / FM / Forensic	<ul style="list-style-type: none"> • Surveyors • Civil engineers • M&E engineers • Architects • Facility / project managers • Geospatial intelligence
Cultural heritage	AEC / FM	
Mobile mapping (indoor and outdoor)	AEC	

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THE RESPONDENTS

- 18 companies:
 1. Surveyors companies – 6 (3 UK & 3 M)
 2. AEC / Architects firms – 5 (3 UK & 2 M)
 3. Estates / Facility Management companies – 3 (2 UK & 1 M)
 4. Historic Environment Advisers – 2 (UK)
 5. Professional institutions / associations – 2 (UK)

- Response rate – 78%

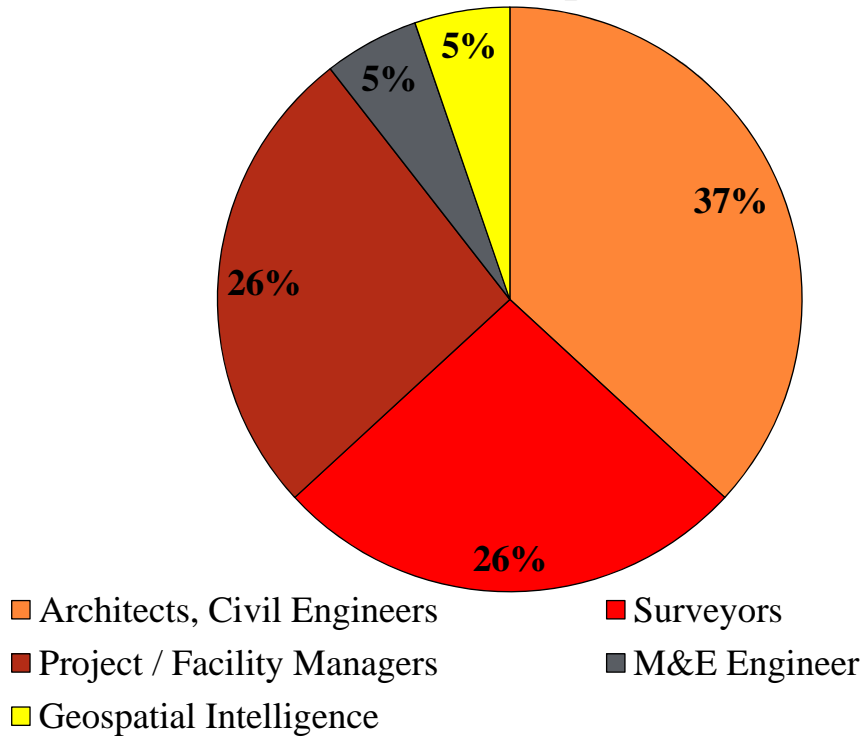


THE RESPONDENTS

Companies / Firms	Positions	Gender
5 Surveyor companies	5 surveyors	All male
5 AEC / Architect Firms	4 architects 1 M&E engineer 1 civil engineer	3 male 2 female
3 Estates / FM companies	4 managers 1 architect 1 civil engineer	4 male 2 female
1 Historic Environment Adviser company	1 geospatial intelligence 1 project manager	Both male

THE RESPONDENTS

Position of Respondents

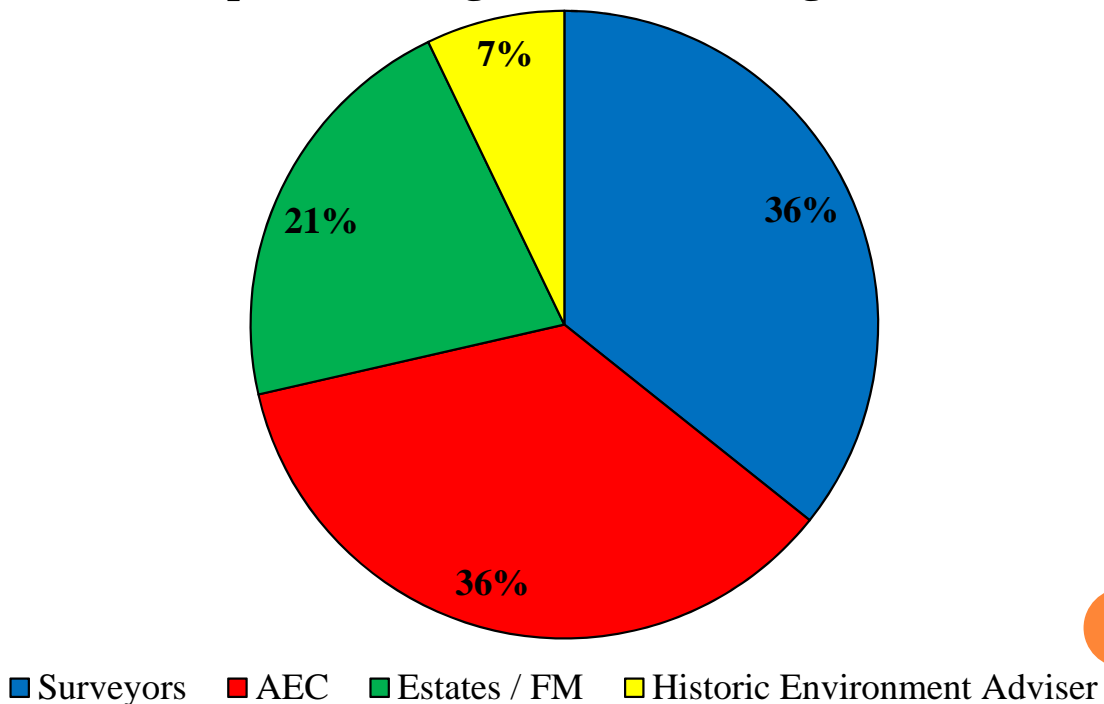


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THE RESPONDENTS

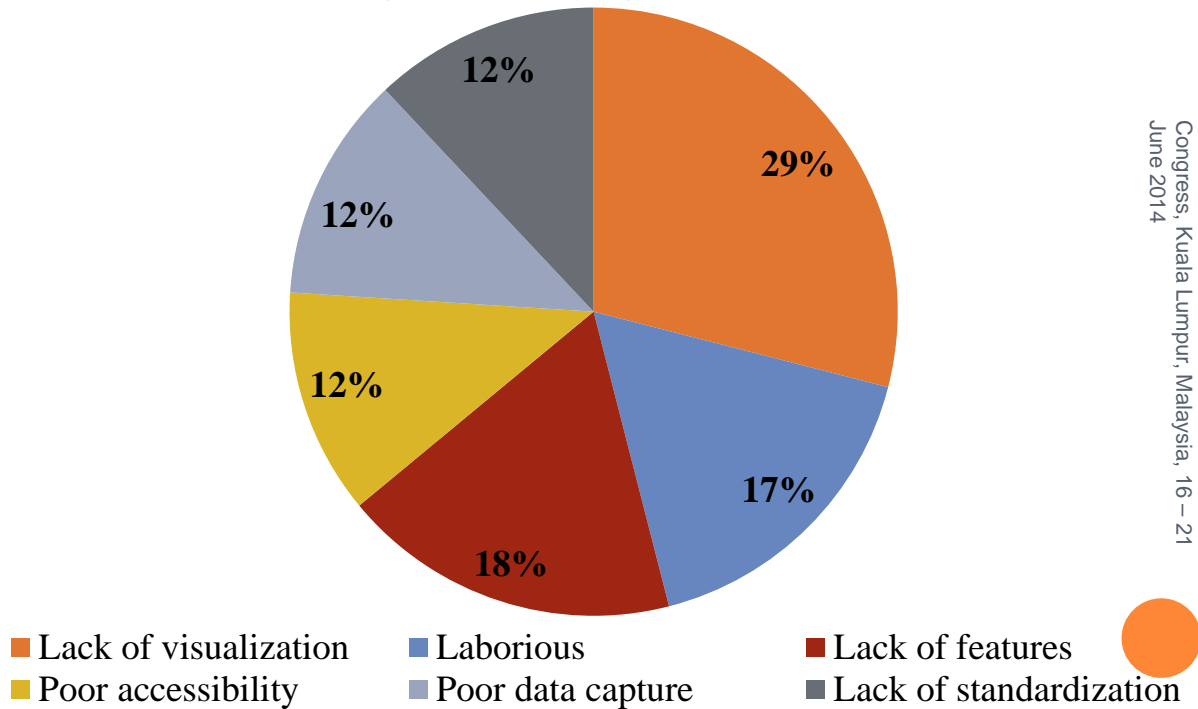
Respondents Organizational Background



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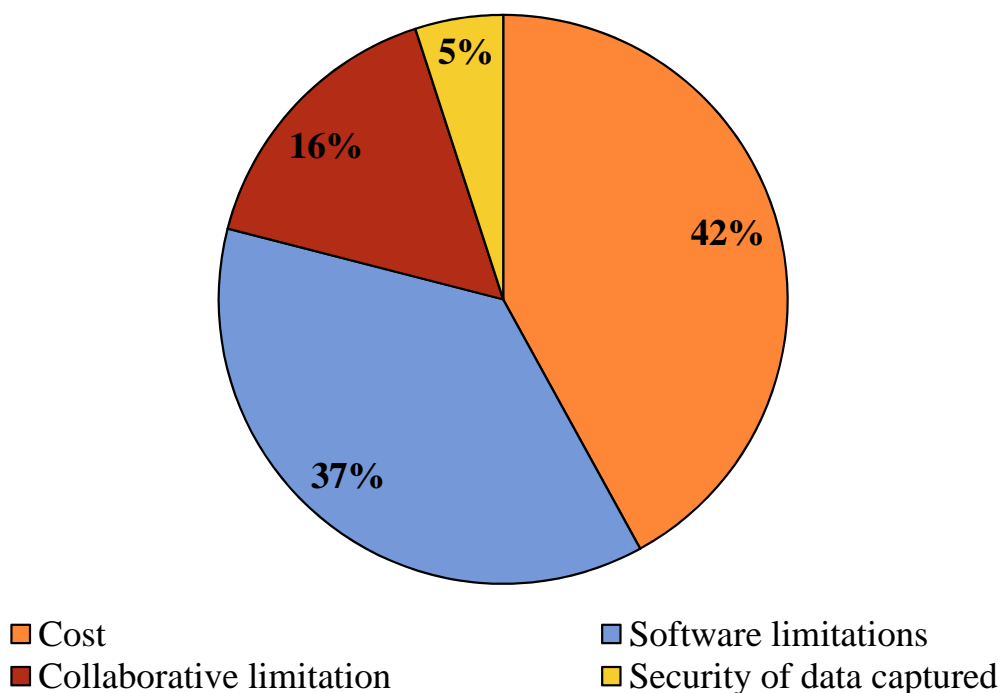


Disadvantages of existing, traditional method



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3D as-built using laser scanner limitations



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RESULTS & DISCUSSIONS

Offered	Required
High in cost	Low-cost
Manual process	Automatic
Individual file format	Laser scanner file format (ASCII)
High density with complete data required	Can handle missing data
Library dependant	No library needed
High processing time	Real-time
Requires CAD knowledge	No CAD background needed
No semantic information	Semantic features included

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CONCLUSION

- Survey – 19 industry professionals
- Disadvantages of existing, traditional approach
- Limitations on current process
- BIM – promising, but long journey towards post-construction

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Thank you

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