

PRIORITIZING BIM INITIATIVES IN MALAYSIA CONSTRUCTION INDUSTRY

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OUTLINES

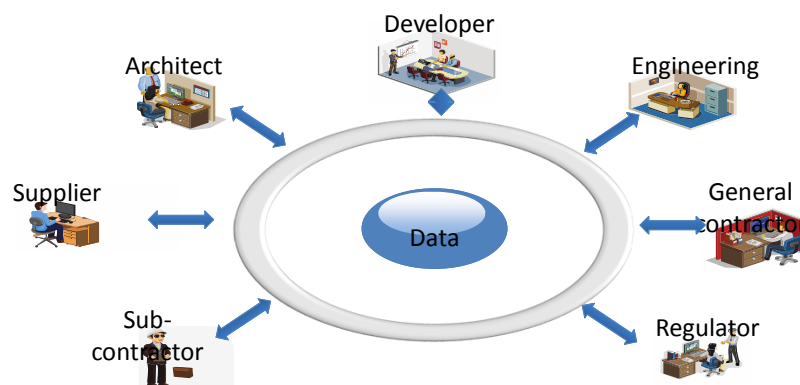
- Background
- Definition
- Where are We in BIM?
- BIM Progress at Global Perspectives
- Development of Malaysia BIM Initiatives
- Benchmarking & Engagement with Local Experts
- Initiatives that is in Progress

BACKGROUND OF CONSTRUCTION INDUSTRY

- The involvement of a **multitude of participants** in design environments contribute to :
 - poor design information
 - inaccurate information transfer and
 - wrong deliveries
 made the construction industry a highly fragmented business

BACKGROUND

- The integrative use of Building Information Modelling (BIM) for the building lifecycle is seen able to integrate the disjointed practices, and act as the catalyst for changing business process (Aranda-Mena et al. 2009).



DEFINITION



BIM can be thought of as a database of the building project. The information in this database span the full range of data as an integrated data set.

As such, BIM integrate the information created by many industry domains

JBIM,2007

Various BIM Definition

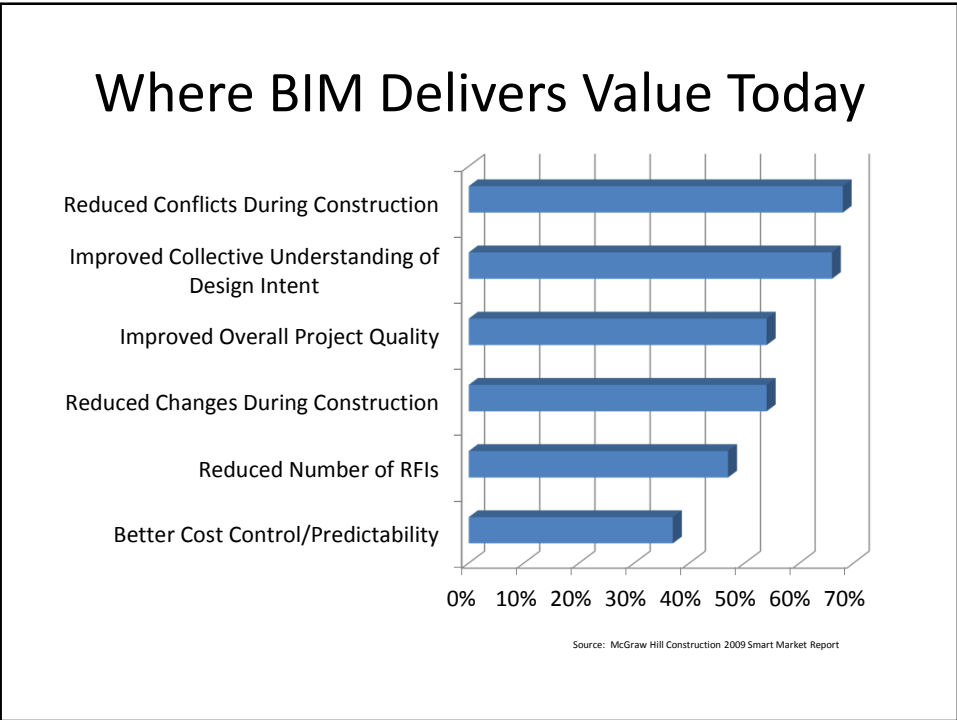
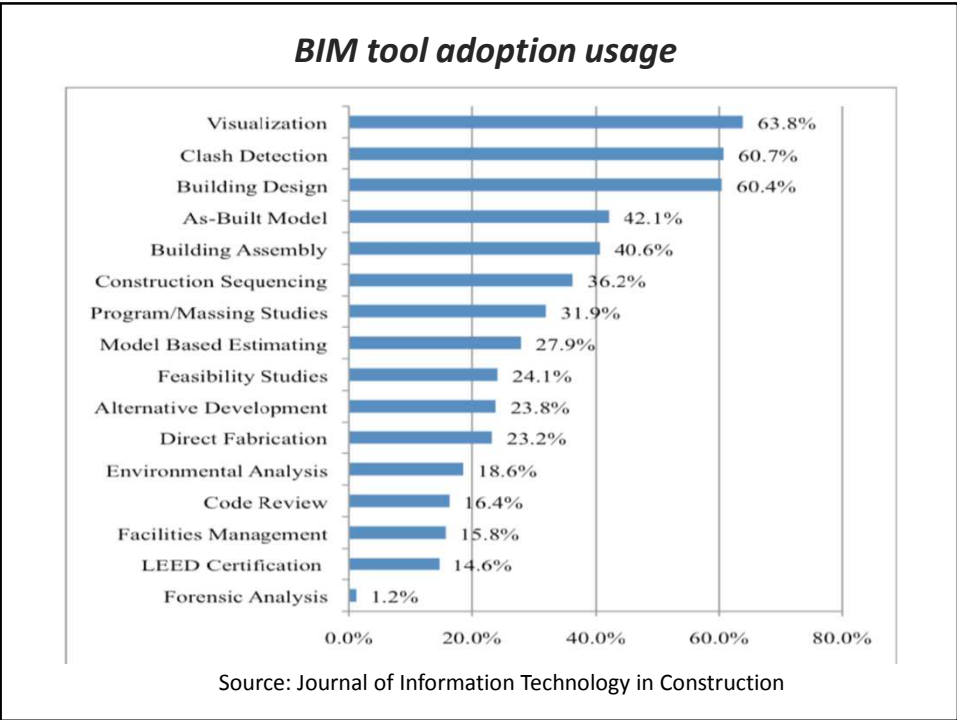
- BIM is an integrated various construction process of generating and managing a building by exploring a **digital model** before the actual project is constructed, during its construction and later facility operation and maintenance (Luthra, 2010).
- BIM is defined as the use of **ICT technologies** to streamline the building lifecycle processes to provide a safer and more productive environment for its occupants, to assert a list of possible environmental impact from its existence, and to be more operationally efficient for its owner throughout the building lifecycle

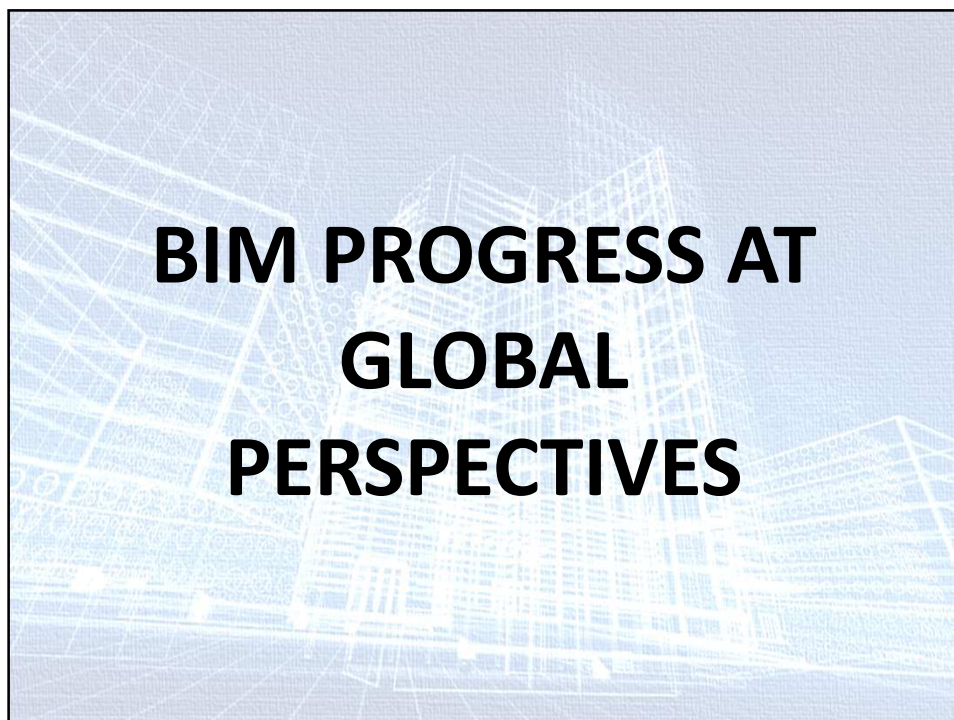
BIM Definition by Malaysia Steering Committee

BIM is modeling technology and associated set of processes to ***produce, communicate and analyze digital information*** models for construction life-cycle



Where are we in terms
of BIM adoption?





BIM Initiatives Around The World

Country	BIM Initiative
United States	The General Services Administration (GSA) in the U.S.A. is a pioneer in advocating the adoption of BIM for public sector projects. It has also developed a suite of BIM guidelines.
United Kingdom	The BIM Industry Working Group in the U.K. has prepared a BIM strategy to increase BIM use over a five-year period by 2016.
Norway	The Norwegian government has stated its commitment to succeed in BIM adoption in 2010.
Denmark	Danish state clients such as the Palaces & Properties Agency, the Danish University Property Agency and the Defence Construction Service require BIM to be used for their projects.
Finland	Finland's state property services agency, Senate Properties, requires the use of BIM for its projects since 2007.
Hong Kong	Hong Kong's Housing Authority has set a target to apply BIM in all new projects by 2014. It has also developed a set of modelling standards and guidelines for effective model creation, management and communication among BIM users.
South Korea	South Korea's Public Procurement Service made the use of BIM compulsory for all projects over S\$50 million and for all public sector projects by 2016.
Singapore	The Building and Construction Authority (BCA) implemented the BIM Roadmap in 2010 with the aim that 80% of the construction industry will use BIM by 2015. This is part of the government's plan to improve the construction industry's productivity by up to 25% over the next decade.
Australia	The Australian Government set a date of 1 July 2016 from which procurement for all its buildings will require full collaborative BIM based on open standards for information exchange (commonly referred to as Open BIM).

FIRST BIM TERM USED IN MALAYSIA'S CONSTRUCTION INDUSTRY

← → G www.thestar.com.my/Story.aspx?file=? ☆ 🔊

KUALA LUMPUR: Construction companies should adopt information and communications technology (ICT) to enhance their capability, says Public Works Department director-general Datuk Seri Prof Judin Abdul Karim.

He said the awareness of using ICT was there but the cost of investment prohibited companies from adopting the technology.

"Big companies can afford ICT investment while most of the small companies find its adoption unaffordable," he told a press conference after the opening of the two-day Infrastructure & Construction Asia's Building Information Modelling & Sustainable Architecture 2009 conference on Wednesday.

Some small companies had already adopted ICT to enhance their operations but could not afford to upgrade due to the higher cost, he added.

"It is not a problem of knowledge and information on the usage of ICT; it is always about the cost," he said.



FIRST BIM PROJECT PUBLISHED



INSTITUT KANSER NEGARA

CADANGAN MEREKABENTUK, MEMBINA, MENYIAPKAN, MELENGKAPKAN,
MENGUJITERIMA, MENTAULIAH DAN MENYELENGGARA INSTITUT KANSER NEGARA DI
ATAS SEBAHAGIAN LOT PT 25 & 128, PRESINT 7, PUTRAJAYA





Spectrum of Global BIM Initiatives

ITEM	INITIATIVES	Hong Kong	Singapore	Australia	United Kingdom	Malaysia
1	Establishment of National BIM Roadmap	√	√	√	√	√
2	Incentivize BIM implementation	√	√			√
3	Vendor Support & capacity development of industry players	√				
4	Digital Infrastructures Capability	√			√	√
5	Risk Assessment & Proven benefits	√				√
6	Standard and common practice	√			√	√
7	Legal and insurance	√		√	√	
8	Awareness, training and education	√			√	√
9	Promoting success stories	√	√			
10	Removing impediments		√			
11	Building capability & capacity of people		√			√
12	Product Information & BIM libraries		√	√		√
13	BIM Guidelines	√	√	√		√
14	Information Exchange			√		
15	Compliance & Certification		√	√		√
16	Changing Procurements process			√		√
17	Business process Change			√		

Spectrum of Global BIM Initiatives (Cont'd)

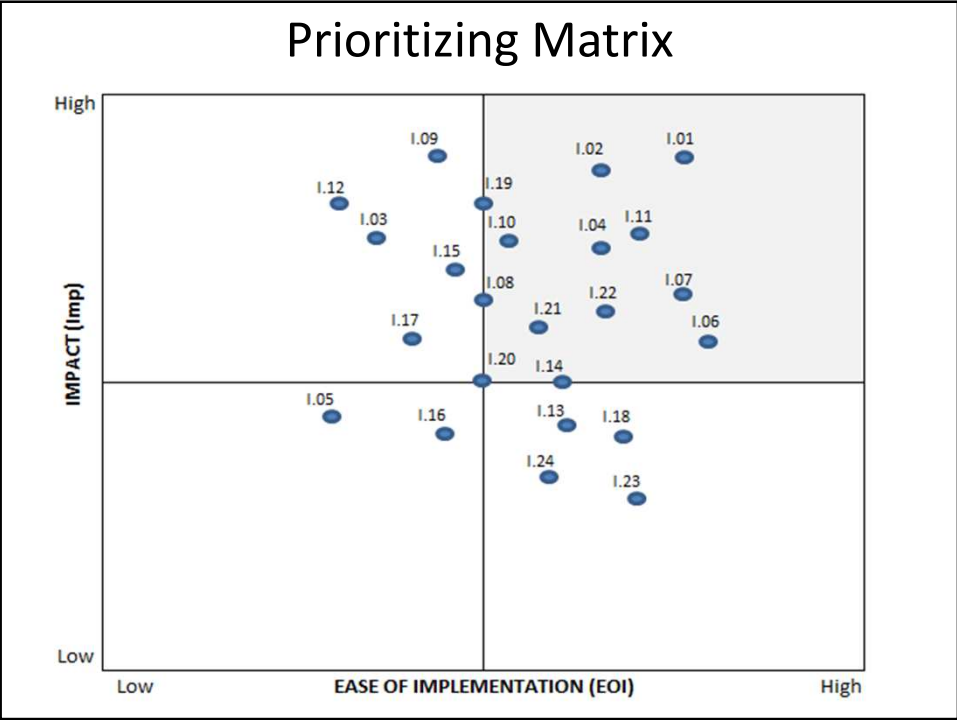
ITEM	INITIATIVES	Hong Kong	Singapore	Australia	United Kingdom	Malaysia
18	Multi-disciplinary BIM education			√		
19	Special interest groups		√			√
20	Research & Development		√			√
21	Forming BIM committee	√	√	√	√	√
22	Registration with international bodies (BuildingSMART International)	√	√	√	√	√
24	Increased exports of AEC/FM professionals through BIM		√	√	√	
25	Mandate BIM for public sector		√		√	√
26	Annual BIM award to recognise advance use of BIM		√			√
27	Collaboration of BIM activities among Government agencies and professional bodies					√
28	Use Government procurements to drive the adoption					√
29	BIM reference center					√

SUMMARY AFTER CONSOLIDATION

CODING	INITIATIVES
I.01	Establishment of National BIM Roadmap
I.02	Incentives for software and training
I.03	Collaboration of BIM activities among agencies
I.04	BIM Standard and common practice
I.05	Legal and insurance related to BIM implementation
I.06	Awareness, training and education
I.07	Building capability & capacity of people
I.08	Mandating BIM for public sector
I.09	In-house proprietary BIM solution
I.10	Product Information & BIM libraries
I.11	BIM Guidelines
I.12	Digital Infrastructures Capability and vendor support
I.13	Information Exchange platform for Level 2 BIM
I.14	Compliance, Accreditation & Certification
I.15	Changing Procurements processes
I.16	Business process Change
I.17	Multi-disciplinary BIM education
I.18	Special interest groups
I.19	Research & Development fund
I.20	Forming BIM committee
I.21	Establish BIM reference center
I.22	Registration with international bodies (BuildingSMART International)
I.23	Annual BIM award to recognise advance use of BIM
I.24	Increased exports of AEC/FM professionals through BIM

Step-3: PRIORITIZING CONCEPT

	Factors	Dimension	Drivers
PRIORITIZED INITIATIVES	IMPACT (Imp) Score Imp = $\sum(DV:Cv)/2$	Benefits (B) $B = DV$	Defined Value (DV) L/M/H
		Coverage (Cv) $Cv = \sum(GI;B;S;P)/4$	General Industry (GI) L/M/H
			Bumiputra (B) L/M/H
			SME (S) L/M/H
			Professionals (P) L/M/H
	EASE OF IMPLEMENTATION (EOI) Score EOI = $\sum(Cplx:Rt:Rs)/3$	Complexity (Cplx) $Cplx = \sum(T;E)/2$	Time (T) L/M/H
		Resistance (Rt) $Rt = \sum(CM;Ov)/2$	Expertise (E) L/M/H
			Change Management (CM) L/M/H
		Resources (Rs) $Rs = Rq$	Overall (Ov) L/M/H
			Requirement (Rq) L/M/H



Step 4 (Focus Group): SELECTED INITIATIVES		
INITIATIVES	ACTIVITIES	
I.01	Establish National BIM Roadmap	
I.02	Incentives for software and training	TBD
I.04	BIM Standards & Common practise	TBD
I.06	Awareness, training and education	TBD
I.07	Building capability & capacity of people	
I.08	Mandating BIM for public sector	TBD
I.10	Product Information & BIM libraries	TBD
I.11	BIM Guidelines	TBD
I.14	Compliance, Accreditation & Certification	
I.19	Research & Development fund	TBD
I.20	Forming BIM committee	TBD
I.21	Establish BIM reference center	
I.22	Registration with international bodies (BuildingSMART International)	



STEERING COMMITTEE OF BUILDING INFORMATION MODELLING

Chairman : Dato' Haji Sallehuddin
PROKOM JKR

Secretariate : BPM, CIDB

First Meeting Sit on 24th July 2013

Members : CIDB

EPU

ICU

PAM

BEM

RISM

UKAS

MAPMA

MAFM

UiTM

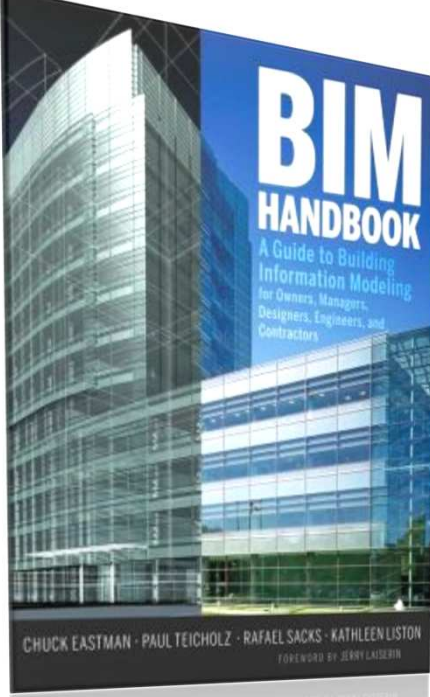
UTM

Sime Darby



BIM ROADMAP







BIM HANDBOOK
A Guide to Building Information Modeling
for Owners, Managers, Designers, Engineers, and Contractors
CHUCK EASTMAN · PAUL TEICHOLZ · RAFAEL SACKS · KATHLEEN LISTON
FOREWORD BY JERRY CAUSER

BIM User Guides


Standards & Accreditation



buildingSMART alliance™
a council of the National Institute of Building Sciences
Member




buildingSMART
International Alliance for Interoperability

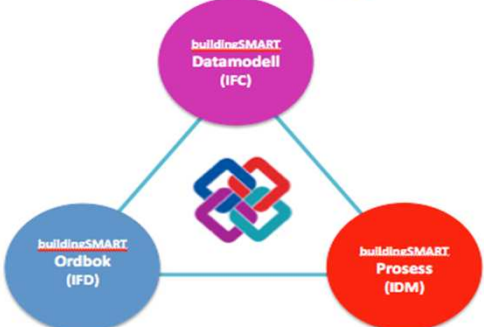


Design Procure Operate Assemble

MALAYSIA CHAPTER



SPORT PRESS ANALYSIS INTERNATIONAL JOURNALISM PERIODICAL PRESS MASS COMMUNICATION MEDIA GLOBAL NEWS PAPER RINTI PAPER ODICALS PRESS JOURNALISM PRESS URGENCY



buildingSMART Datamodel (IFC)

buildingSMART Ordbok (IFD)

buildingSMART Proses (IDM)

