Kharis Alfi
Indonesian BIM Institute

R&D BIM Implementation Program
Pandega Desain Weharima
Education and Research Indonesian Institute of Architects (Jakarta Chapter)
Infrastructure for Professional Practise - Indonesian Institute of Architects
Greenship Professional- Green Building Council Indonesia

“THE FUTURE IS NOW..!”
WHAT IS INSTITUT BIM INDONESIA

• VISION
To be a lead organization developing BIM implementation in Indonesia

• MISSION
To lead the establishment of BIM Standard and protocol, to educate and share open BIM implementation methodology and strategy for architecture, engineering and construction in Indonesia, and collaborate and participate in global industries.

Design The Standard, Building The Future

• 2014, discussions in adopting open BIM methodology in Architecture and engineering practise
• 2015, discussions in adopting open BIM methodology in Architectural studies
• 100 active discussion member

Jakarta Office:
Pandega Desain Weharima
Plaza 3 Pondok Indah, Blok B-5
Jl. TB Simatupang, Jakarta

Bandung Office:
Gedung Arsitektur
Labtek IX B- Institut Teknologi Bandung
Jalan Ganeca no.10
Bandung
INSTITUT BIM INDONESIA TASK FORCE

- **Chairman**: Kharis Alfi, S.T
- **Secretary**: Bobby Henatta, S.T
- **Treasurer**: Amy Rachmadhani, S.T
- **Research & Development for Protocol and Standardization**
  - Aswin Indraprastha, PHD
  - Riva Tomasowa, S.T, M.Arch
  - Galuh Lidra Putra, B.A
- **Education and Competencies**
  - Ahmad Irsan, S.T, M.Arch
  - Bhima Rahadi, S.T
- **Human Resource and Community Development**
  - Fauzan Alfi, S.T, M.T
  - Ahmad Shiddiq Wangsaputra, S.T

(c) stanley wangsadhardja
Table 1. Summary of barriers in BIM implementation

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of national</td>
<td>Incomplete national standard</td>
<td>Bernstein &amp; Pittman, 2004; Thomson &amp; Miner, 2006; Björk &amp; Laakso, 2010; Azhar, 2011; Aibinu &amp; Venkatesh, 2014; Aheshidi et al., 2014</td>
</tr>
<tr>
<td>standard</td>
<td>Lack of information sharing in BIM</td>
<td>Allen Consulting Group, 2010; Thomson &amp; Miner, 2010; Azhar, 2011; Ganah &amp; John, 2014</td>
</tr>
<tr>
<td></td>
<td>High initial cost of software</td>
<td>Smith &amp; Tardif, 2009; Allen Consulting Group, 2010; Sharag-Eldin &amp; Nawari, 2010; Becerik-Gerber et al., 2011; NATSPEC, 2013 ; Wu &amp; Issa, 2014</td>
</tr>
<tr>
<td>High cost of</td>
<td>High cost of implementation process</td>
<td>Arayici et al., 2011; Won et al., 2013; Aibinu &amp; Venkatesh, 2014; Demian &amp; Walters, 2014</td>
</tr>
<tr>
<td>application</td>
<td>Lack of skilled personnel</td>
<td>Thomson &amp; Miner, 2006; Chynoweth et al., 2007; Azhar, 2011; Udom, 2012</td>
</tr>
<tr>
<td></td>
<td>High cost of training and education</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Process problems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Learning curve</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of senior support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ownership</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Responsibility for inaccuracies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Licensing problems</td>
<td></td>
</tr>
<tr>
<td>Organizational</td>
<td></td>
<td></td>
</tr>
<tr>
<td>issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal issues</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Traditional design process</th>
<th>Integrated design process</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHAT</td>
<td>WHAT</td>
</tr>
<tr>
<td>HOW</td>
<td>HOW</td>
</tr>
<tr>
<td>REALIZE</td>
<td>REALIZE</td>
</tr>
<tr>
<td>WHO</td>
<td>WHO</td>
</tr>
<tr>
<td>Owner</td>
<td>Agency</td>
</tr>
<tr>
<td>Designer</td>
<td>Construction</td>
</tr>
<tr>
<td>Design Consultants</td>
<td>Construction</td>
</tr>
<tr>
<td>Implementation Documents</td>
<td>Construction</td>
</tr>
<tr>
<td>Agency Coord/ Final Review</td>
<td>Closeout</td>
</tr>
<tr>
<td>(c) stanley wangsadihardja</td>
<td></td>
</tr>
</tbody>
</table>
The RIBA Plan of Work organizes the process of briefing, designing, constructing, maintaining, operating and using building projects into a series of key stages. The content of stages may vary as suit particular project requirements. The RIBA Plan of Work 2013 should be used solely as a guide for the preparation of both professional services contracts and building contracts.

For more details, please visit www.institutBIM.id
BIM DI KAMPUS
Aquatic Stadium
- GBK JAKARTA
### WORLD SURVEY

1. **Is low price a problem in your country?**
   - 90% YES
   - 5% NO

2. **Are sustainability, long term performance and cost considered?**
   - 50% YES
   - 27% YES, cost and quality considered

3. **How does low price selection affect the cost of construction?**
   - 74% COST OVERRUN OCCUR
   - 26% OTHER

4. **Project type (in numbers)**
   - **52% BUILDING**
   - **39% INFRASTRUCTURE**
   - **9% OTHERS**

5. **How are construction works awarded?**
   - 37% ON LEAST PRICE BASIS
   - **41% ON QUALITY AND PRICE BASIS**
   - 7% ON AVERAGE PRICE BASIS
   - 15% OTHERS

---

**BIM PROJECTS OPPORTUNITIES**

[www.institutBIM.id](http://www.institutBIM.id)
# BUILDING INFORMATION MODELING

<table>
<thead>
<tr>
<th></th>
<th>PAST</th>
<th>PRESENT</th>
<th>FUTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYSTEM</td>
<td>Develop from CAD 3D and Clash Detection</td>
<td>System Integration from specific vendors, without standardization</td>
<td>Neutral vendor with system harmonization</td>
</tr>
<tr>
<td>CONSULTANT</td>
<td>Experimental Application on complex projects</td>
<td>System developed by companies to suits project characteristics and field of practise</td>
<td>Standardized skills and process, developed by younger generations</td>
</tr>
<tr>
<td>CLIENTS</td>
<td>Enthusiasts driven by belief that 20% cost savings are likely</td>
<td>still expecting cost savings, but beginning to see benefit</td>
<td>General use in various projects, with the understanding of lifetime value that exists</td>
</tr>
</tbody>
</table>
AEC (UK) BIM Protocol
Implementing UK BIM Standards for the Architectural, Engineering and Construction Industry.

Version 2.0
September 2012

AEC (UK) BIM Technology Protocol for GRAPHISOFT ARCHICAD
Additional detail and enhancements for the practical implementation of the AEC (UK) BIM Technology Protocol for GRAPHISOFT ARCHICAD users.

Version 2.0
January 2016
Updated to reflect current working practices and software application.
How Various Governments Worldwide are Taking the Lead

1. 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.

2. 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.

3. Norway
   The Norwegian government has stated its commitment to succeed in BIM adoption in 2010.

4. 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.

5. Finland
   Finland's state property services agency, Senate Properties, requires the use of BIM for its projects since 2007.

6. 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.

7. South Korea
   South Korea's Public Procurement Service made the use of BIM compulsory for all projects over $50 million and for all public sector projects by 2016.
TRADITIONAL DESIGN - BID BUILD

ARCHITECT-LED DESIGN-BUILD

• (c) stanley wangsadhhardja

NEXT

• BIM IMPLEMENTATION

• (c) riva tomasowa

• PROTOCOL
• INDUSTRY
• EDUCATION
• AUTHORITY

• DESIGN PROCESS MIGRATION
NEXT FOR INSTITUT BIM INDONESIA

- TO ENCOURAGE GOVERNMENT AND PRIVATE SECTORS
- TO ESTABLISH BIM STANDARDS
- TO BUILD BIM COMPETENCIES
- TO BUILD BIM DATABASE FOR LIBRARIES, COMPONENTS AND MATERIALS
- TO ENCOURAGE RESEARCH IN BIM FOR TECHNICAL SCHOOLS AND CAMPUSES
HUMAN RESOURCE & INDUSTRY IMPLEMENTATION STRATEGY FOR INDONESIA

Policy
- standard
- regulator
- incentives

Educational Institution
- center of excellence

Industry
- professional/user
- client
- provider
- manufacturer

www.institutBIM.id
A.E.C INDUSTRY PARTICIPATION

• BE IMPLEMENTATION PIONEER
• ACCODATE BIM PROFESSIONALS
• ACCOMODATE BIM OPERATORS
• ESTABLISH ONLINE BIM PRODUCTS
• SUPPORT BIM RESEARCH IN SCHOOLS AND CAMPUSES
• GROW WITH INSTITUT BIM INDONESIA
Let's build Indonesia, Let's do OpenBIM...!

Thank You

Kharis Alfi
Institut BIM Indonesia
Ikatan Arsitek Indonesia
Pandega Desain Weharima

© 2017