

HOCHSCHULE  
KONSTANZ  
UNIVERSITY OF  
APPLIED SCIENCES



# Lake Constance 5D-Conference 2012

## BIM Capabilities in the Middle East

Mark Baldwin

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# BIM Capabilities in the Middle East

- International not-for-profit organisation
- An industry association for openBIM
- Membership-based and owned
  - Several thousand members globally
- Regional alliances (chapters) to reflect local needs
  - buildingSMART ME chapter set up Nov 2009
- Develops and maintains international standards for openBIM interoperability
  - Data Model - IFC**  
Industry Foundation Classes (IFC) - (ISO/PAS 16739-2005)
  - Process Manuals - IDM**  
Information Delivery Manuals (ISO 29481-1:2010)
  - Data Dictionary - IFD**  
International Framework Dictionary (ISO 12006-3:2007)



# BIM Capabilities in the Middle East

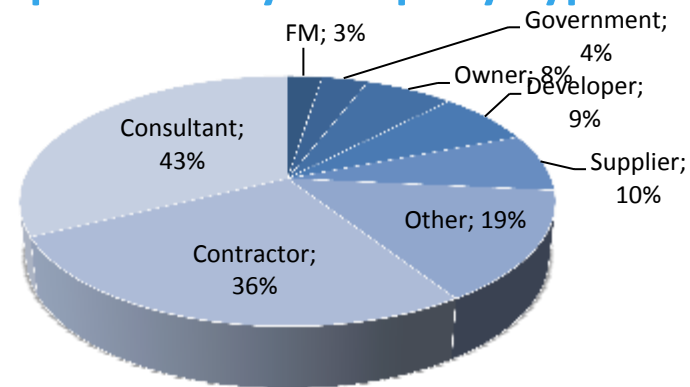
Middle-East BIM Report



## GCC and Jordan



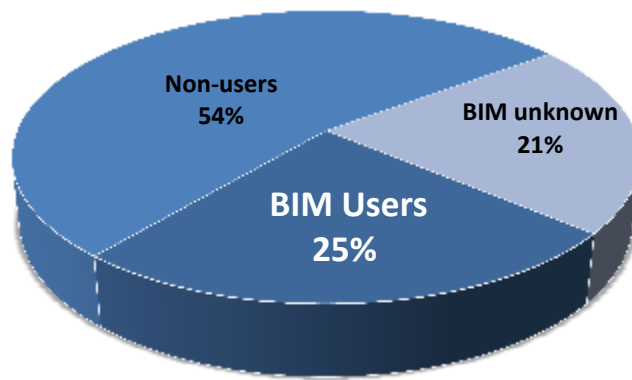
## Respondent by Company Type



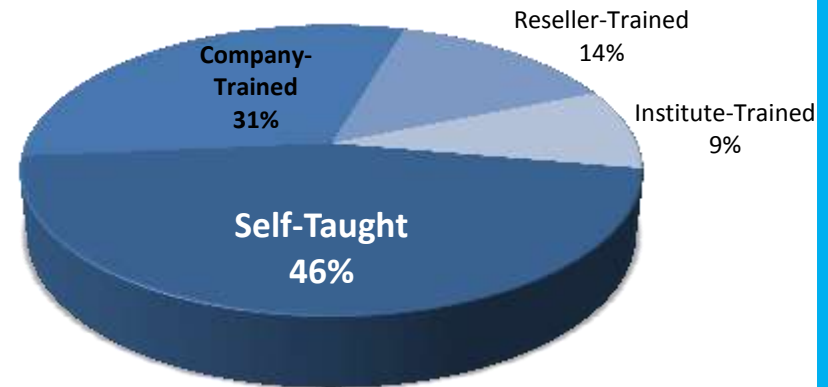
# BIM Capabilities in the Middle East

## Findings from the 2010 Middle East BIM Survey

**BIM Usage in GCC & Jordan**



**BIM Training**



### Why companies do **not** use BIM

- 'have not been asked to' (62%)
- 'don't know anyone who uses BIM' (43%)
- 'interested in BIM, but don't know how' (41%)

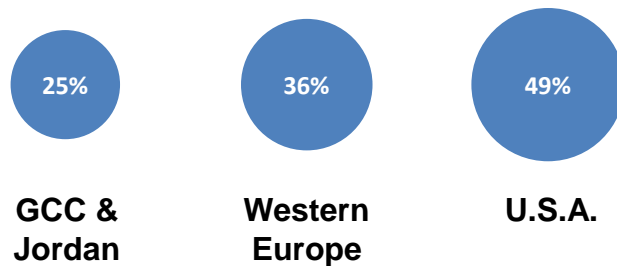
### Drivers for using BIM in the future

- 'if it were mandated on projects (59%)
- 'increased availability of industry standards' (57%)
- 'increased availability of skilled professionals (56%)

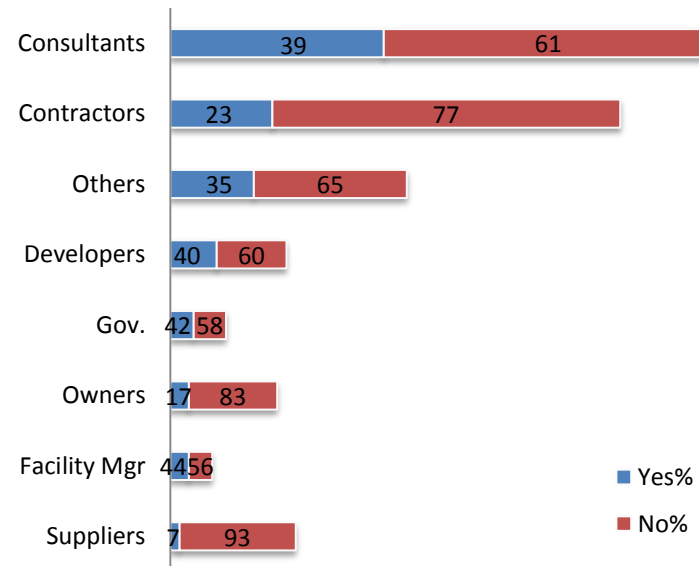
# BIM Capabilities in the Middle East

## Findings from the 2010 Middle East BIM Survey

### BIM Usage Comparison



### BIM Usage by Company Type



# BIM Capabilities in the Middle East

## McGraw-Hill Construction Forecast for BIM Usage in the US

	2007	2009	2011	2014
<b>ADOPTION</b> <i>(% of Users doing some amount projects with BIM)</i>	28%	48%	70%	80%
<b>IMPLEMENTATION</b> <i>(Average % of Users' projects being done in BIM)</i>	10%	35%	55%	90%
<b>PENETRATION</b> <i>(% of total projects involving BIM)</i>	<3%	17%	38%	72%

# BIM Capabilities in the Middle East

## The State of BIM in the M.E. in 2012

- **An increasing demand for BIM**
- **Positive Government buy-in and/or interest**
- **Contractors and Consultants transitioning swiftly**
  - **Little or no guidance or regulation**
  - **The future is BIM**

# BIM Capabilities in the Middle East

## Current Trends

	<i>Basic BIM</i>	<i>Advanced BIM</i>
<b>Consultants</b>	Design, visualisation, coordination	Drawings, scheduling and BoQ extraction, Analyses
<b>General Contractors</b>	VE, construction method. QTO's,	Cost control, construction scheduling, construction reporting
<b>Fabricators</b>	Shop drawing / CNC fabrication	Installation support



# BIM Capabilities in the Middle East

## Example Project BIM Requirements

### **Model Production**

- design authoring (LOD300-500)

### **Coordination / QA/QC**

- clash detection
- element validation
- standard check
- model accuracy & tolerance

### **Collaboration**

- multi-user info sharing
- version control
- BIM Theatre (smart boards)
- management & integration
- project communication
- RFI reporting

### **DIM-BIM comparison**

#### **Cost estimation**

- quantity take-offs
- integration with cost est. s/w

#### **4D Construction Scheduling**

- visual simulation
- installation sequencing
- work package division
- identify milestone

#### **Manage variation orders**

#### **Progress Reports**

Actual Vs Projected Vs Likely

#### **3D Control & Planning**

- method demonstration
- critical path analysis
- what-if scenarios

### **Site Utilisation Planning**

- temporary works, crantage
- materials and deliveries
- equipment locations

#### **Digital Fabrication**

- design to fabrication workflows for all disciplines

#### **Procurement**

#### **BIM to Field**

- layout points
- status reporting
- snagging, punchlists

#### **As-Built model**

#### **FM/O&M handover**

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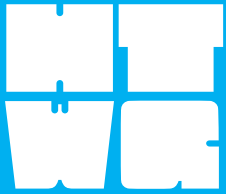
## Future Trends

- **Prefabrication and modularisation**
  - **CAD-CAM workflows**
  - **BIM to Field**
- **Integrated Construction Management**
  - **Integrated Project Management**
    - **BIM for Sustainability**
    - **Facilities Management**

# BIM Capabilities in the Middle East

## Challenges

- **BIM Expectations are high**
- **There is a varied level of BIM knowledge**
  - **No recognised BIM standards**
- **Ambiguity in methodologies and terminologies**
- **BIM Specs are unregulated and non-standardised**
  - **openBIM is hardly on the agenda**



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