Building Information Modelling
Strategic Overview April 2012

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Introduction

• Background
• HMG BIM strategy
• Where are we?
• Client Pull – Supply Push
• Early Adoption
• Data management - spatial
Background

Key Government strategies relating to asset management

1. Building Information Modelling (BIM)
2. Public Sector Asset Mapping
3. Infrastructure UK (IUK)

These are aimed at producing significant efficiencies and cost savings and improving UK construction industry and asset performance.
What is BIM & why is the Government seeking its adoption?

**Recommendation 3.11:** That the industry should work, through a collaborative forum, to identify when the use of BIM is appropriate (in terms of the type or scale of project), what the barriers to its more widespread take-up are, and how those barriers might be surpassed, leading to an outline protocol for future ways of working.

**Recommendation 6.14:** That Government should mandate the use of Building Information Modelling methodology for central Government projects with a value greater than £50 million.
The opportunity overview - The challenge

Public assets worth an estimated £385 billion

Better property management could deliver £35 billion over 10 years

BIM can enable construction cost savings of 20%

1.2 million property transactions a year

£200 billion of infrastructure investment is planned over the next five years

Central Government has 6,700 buildings providing over 10 million square metres of floor space

Public Assets cost £25 billion a year to run

Government hopes to raise £20 billion through sale/investment of assets

Estimated to be up to 1 million Public Sector wide Building Assets.
Hypothesis

Government as a client can derive significant improvements in cost, value and carbon performance through the use of open sharable asset information”
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**20% Target**

1. Valuable
2. Understandable
3. General
4. Non Proprietary
5. Competitive
6. Open
7. Verifiable
8. Compliant
9. Funded
10. Five Year Programme
What is the Strategy?

• Pull (Government)
  • Be good at buying data (as well as assets and services)
  • Do it consistently
  • Leave the “How” to the Supply Chain

• Push (Supply Chain)
  • Early Warning to Mobilise
  • Training
  • Methods & Documentation

• Deliver Level 2 BIM by 2016
What is BIM?

It is about Data, Standards and processes and not technology or just a model.
Client Requirements – Information Management Processes

- Project Information Management
- Asset Management
- Asset & Project Portfolio Management

Handover

Funded Projects

Modification Requests
New Facility Requests
Data Hierarchy of needs/User Levels

Increasing Importance of spatial (GIS) Referencing and linking

Summary  Strategic  HMT

Portfolio  Planning  Depts

Asset  Asset / Portfolio  Depts

COBie  IFC  Full Atomic Detail

Asset & Systems  Operations

Data  Level of Detail  Description  Consumer
Show assets/products/maintenance in GIS

Show totals (installations, sites, etc.) integrated between GIS and BIM
What is COBie?

A neutral and simple standard for Information exchange between systems.
## BIM strategy work streams

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### Cluster Key

- **Delivery**
- **Management**
- **Commercial - Legal**
- **Client Projects**
- **Futures**
Programme & progress

- Mobilisation
  - Early Adopters
    - O&M Handover
    - Consistency
    - Cultural Change
    - Packaging
    - PUSH - PULL
  - COBIE File Based
  - Live Operations
    - Resilience
    - Carbon
    - Cost
    - Planning
    - etc
  - COBIE Enriched Data
  - Database Repository
  - Web “Data” Driven
  - Phase 1
  - Phase 2
  - Phase 3
  - Phase 4
  - Web “Process” Driven

- Active Management
  - Building Management
  - Strategic Management
  - Budgets
  - Carbon
  - Enable IGT Delivery
  - Green Economy Roadmap

- Five Years
- More Years

- Red Team Projects
- Blue Team Projects
- Live Operations

- O&M Handover
- Consistency
- Cultural Change
- Packaging
- PUSH - PULL
Alignment of Plans of Works

The Project Management Framework (PFM) Lifecycle

- Stage 0 - Strategy
- Stage 1 - Outcome Definition
- Stage 2 - Feasibility
- Stage 3 - Concept Design
- Stage 4 - Detailed Design
- Stage 5 - Delivery
- Stage 6 - Project Close
- Stage 7 - Benefits Realisation

TIL (CGAP)

OQC Gateways

Network Rail GRIP

TIL CIMM

TIL Spearmint

RIBA Work stage

Gather

Maintain

Use

Key Client Benefits

Check against clients brief
Cost planning
Risk Management

Check against project brief
Cost planning
Tender
transparency
Environmental Checks

Package Scope check
Cost Checks
Carbon Checks

Q&M Data
Handover
Actual Costs
Actual Programme
Actual Carbon Performance

Data and information to manage the asset base in a safe, clean and cost effective manner.

Data drops (N) will be provided as often as is necessary, reflecting notifiable changes to the asset either through maintenance or repurposing.

Data and information to proactively managed cost and carbon performance of the asset.

Easy presentation of HMG reporting systems for future planning and performance management.

Key

- Data Drops
- Data Management
- Industry
- Delivery Stages

Savings Achieved

Anticipated Savings
Delivery of standards & documentation

B/555 Roadmap
BS1192 /PAS 1192
PAS 55
Uniclass

Standards
BS1192:2007
BS7000: 4
BS 8541: 2
BS 8541:1:3:4
BS1192:3
OPEX
IFC
PAS 1192:2
BS1192:2
CAPEX
BS 1192:3
OPEX
IDM
IFD

Guides
Building Information Management inc Guide to BS1192
Guide 1
Guide 2
Guide 3

Classifications
CPI Uniclass / CAWS
New classifications to assist lifecycle delivery

Delivery
CPI/RIBA/ACE/CIBSE/ BSRIA Plan of work
Includes contractual and level of detail
Increase level of detail and content as lifecycle knowledge grows
Types of data to be managed

- PDF files
- BIM models
- Non Graphical Data
- COBie files
HMG BIM early adopter programme

All types of projects New Build, Refurbishment, Certificate A, Linear

• Ministry of Justice

• Highways Agency

• Schools programme
Level of Detail – Client lean project processes
Next steps

- Work through the requirements for Infrastructure including standards
- Defining data management hierarchy and requirements
- Bring together Cost/performance Infrastructure and BIM information
- Roll-out across Government Clients through the BIM Task group and its programme
Thank you!

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