Public sector actions to advance outcomes and the construction sector

25th March 2022

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Global BIM Network
Agenda

1. Better outcomes needed

2. Convening global public sector action: digitalization

3. Next steps: government and industry collaboration
Focusing on outcomes
Needing better outcomes

• Volume of homes delivered does not meet demand
• Poor construction productivity
• Infrastructure quality issues
• Poor energy performance of existing buildings

Better Outcomes

Focused on delivering better outcomes that span the lifecycle of an asset, their impact on people, processes, environmental outcomes

• Net Zero
• Resiliency
• Value for money
• Quality of built environment

Sector Factors

Digital Construction

• BIM, Digital Twins,
• Design for Manufacture & Assembly
• Digital Project Management Office

• Volume of homes delivered does not meet demand
• Poor construction productivity
• Infrastructure quality issues
• Poor energy performance of existing buildings
UK Infrastructure is acting as a brake on economic growth

- **Delayed and cancelled** infrastructure spending in 2015/16 cost the UK economy £6bn.
- **Re-work** costs up to 20% of total construction value.
- Homes and offices consume up to 4x more **energy usage** than designed.
- Transport and Energy supply contribute to more than 50% to UK’s total greenhouse gas emissions.
- **Traffic congestion** costs the UK economy £31bn in 2016.
- **Train delays** in the UK cost the economy over £1bn annually.
- It costs the NHS £600m pa to treat illnesses caused by living in poor housing conditions in England.
- Disruption from **flooding** costs the UK economy £1bn pa.
BIM Uses at Different Stages of the Life Cycle

**Planning**
- Cost Estimation
- Phase Planning
- Programming - DPMO
- Site Analysis

**Design**
- Design authoring, revision and coordination
- **Energy analysis**
- Structural analysis
- Code validation

**Construction**
- Site planning
- Digital fabrication
- 3D control and planning
- **BIM for DfMA**

**Operations**
- Maintenance schedule
- Asset management
- Disaster planning
- Handover model
- Building system analysis
- **Digital Twins**
OFF-SITE MANUFACTURE
HIGH SUSTAINABILITY RATING – Code 4 for Sustainable Homes

Source: David Miller Architects
Better project outcomes

- **Project**: Tideway Tunnel East
- **Location**: London
- **Client**: Thames Tideway Tunnel
- **Expertise**: Engineering design and information management
- **Project phase**: Construction efficiency

- 6 month design reduction
- 2 year total reduction
- 20% cost reduction

*Source: Mott MacDonald*
Global public sector actions
Global BIM Network
Collective effort to advance the digitalization of the construction sector and built environment
Convening the Global Public Sector

The Global Network brings together members of the global public sector:

- **Over 300 attendees** from **71 countries**
- **Broadcast in 4 languages** (English, Spanish, French and Japanese)
- **12 Public Leadership speakers** in four panel discussions
- **250+ built environment artefacts** have been submitted for inclusion on [Network Knowledge Base](#)
- Launch of the [Global BIM Network Roadmap 2021-2025](#), co-developed by the Network’s Steering Committee and Advisory Boards
Our vision is a global digital built environment that delivers benefits for people and places
The Global BIM Network connects the international public sector and multi-lateral organisations to advance the digitalisation of the global built environment.

Information Collection
Information and resources shared by members of the Global BIM Network are organised geographically and structured under these four categories.

- **Public Leadership**
  - BIM policy; legislation; national, regional and international programmes; strategy and plans

- **Collaborative Framework**
  - Legal and procurement documents; technical references; guidance; templates and tools

- **Communication & Communities**
  - Communities of practices and websites

- **Capability & Capacity Building**
  - Training; case studies and human capital metrics

https://www.globalBIM.org
Information Collection: www.globalbim.org

60 countries represented in the collection
## Adoption of International Standards*

### Status of ISO 19650-2

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<th>Status of ISO 19650-2</th>
<th>Number of Countries</th>
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- Austria
- Belarus
- Belgium
- Brazil
- Bulgaria
- Chile
- Colombia
- Costa Rica
- Croatia
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Hong Kong
- Hungary
- Iceland
- Ireland
- Israel
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Montenegro
- Morocco
- Netherlands
- Norway
- Peru
- Philippines
- Poland
- Portugal
- Romania
- Serbia
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- Uruguay

*Based on desk research of the GlobalBIM Secretariat, investigating publication or use of ISO 19650-2 with national annex / local interpretation*
Public and private sector working together
Global BIM Information Collection Webinar

https://youtu.be/P3GaT9NBGMs

https://www.globalbim.org/news