



Public sector actions to advance outcomes and the construction sector

25th March 2022

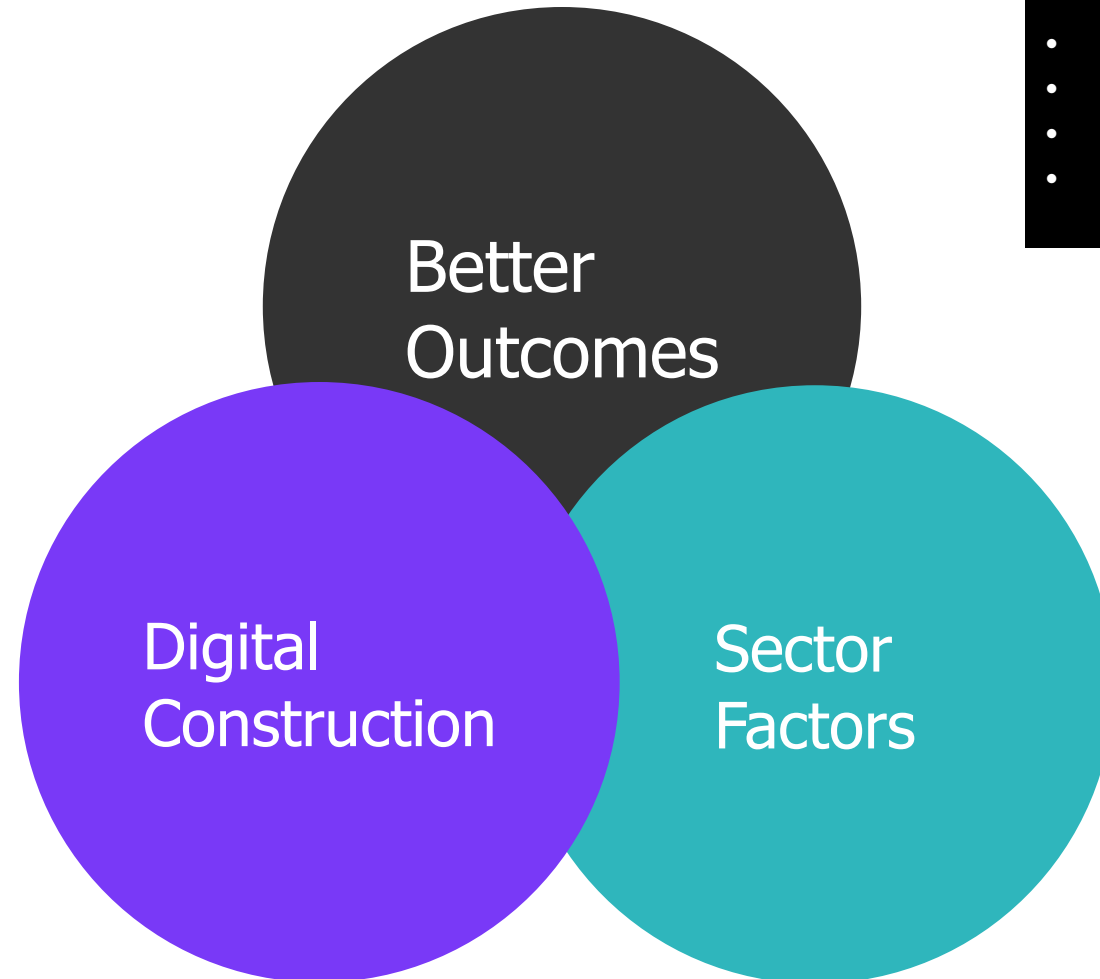
Adam Matthews,
Centre for Digital Built Britain
Global BIM Network

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



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

- 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

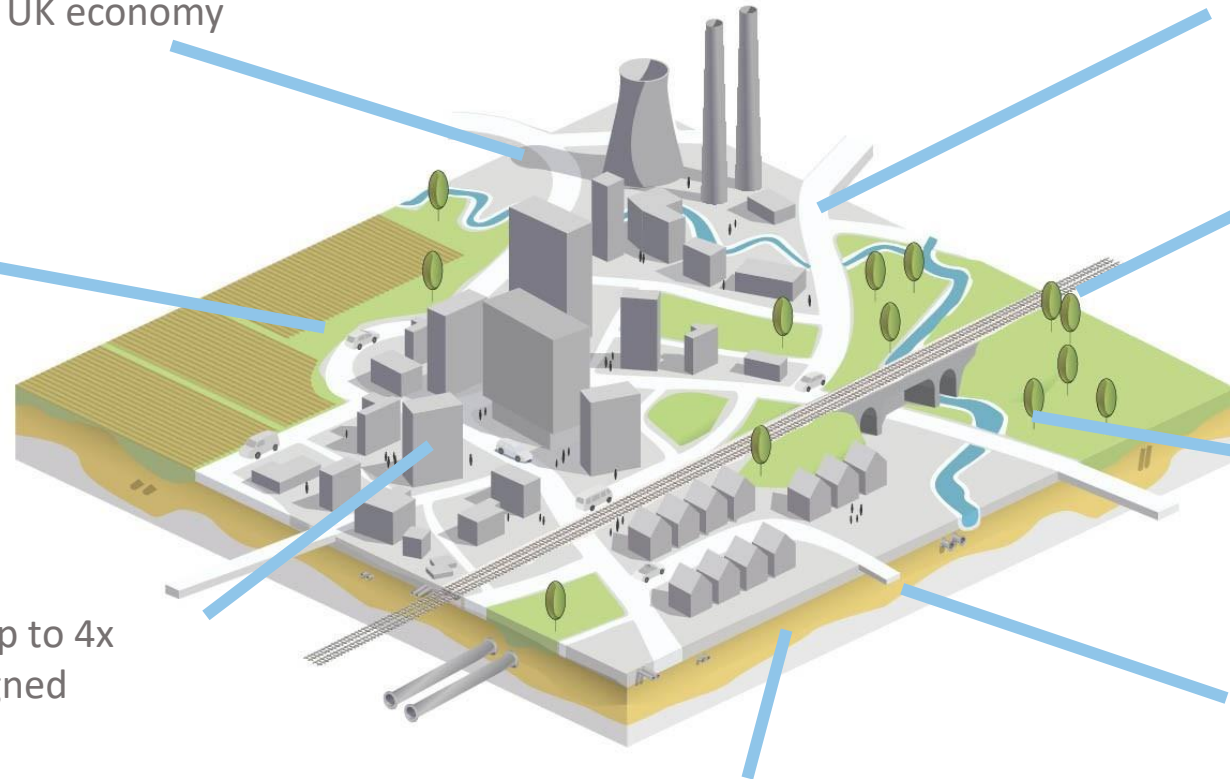
UK Infrastructure is acting as a brake on economic growth



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



Traffic congestion costs the UK economy £31bn in 2016

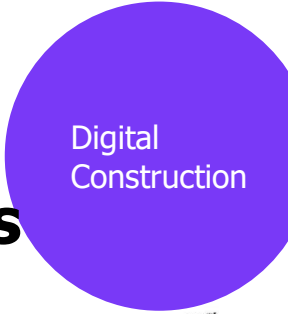
Train delays in the UK cost the economy over £1bn annually

It costs the NHS **£600m pa** to treat illnesses caused by living in poor housing conditions in England

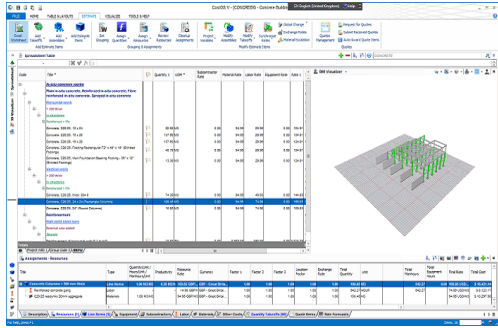
Disruption from **flooding** costs the UK economy £1bn pa

Transport and Energy supply contribute to more than 50% to UK's total greenhouse gas emissions

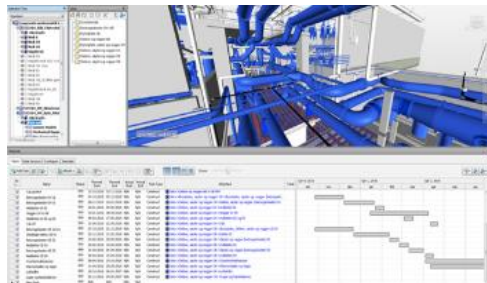
BIM Uses at Different Stages of the Life Cycle



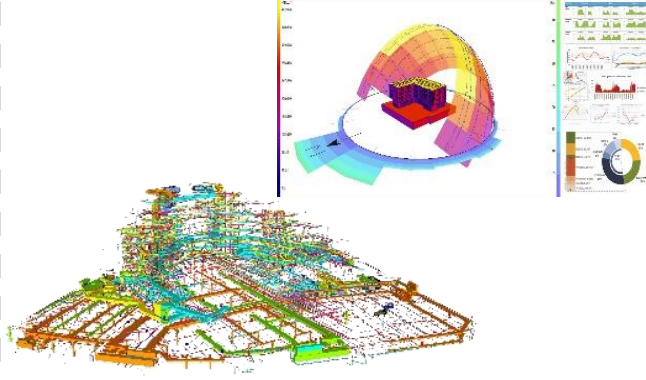
Planning



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



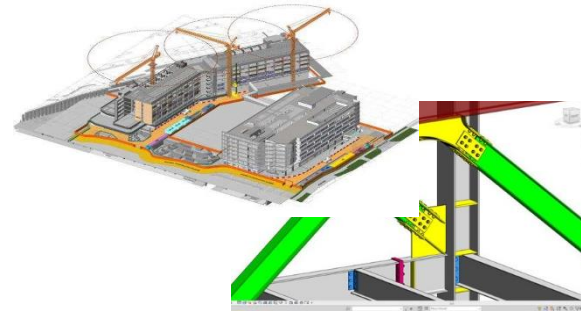
Design



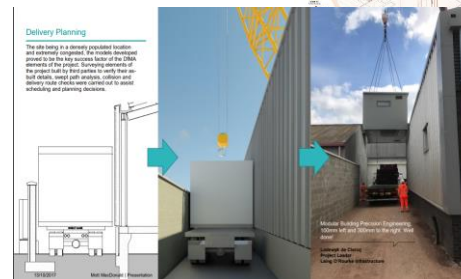
- Design authoring, revision and coordination
- **Energy analysis**
- Structural analysis
- Code validation



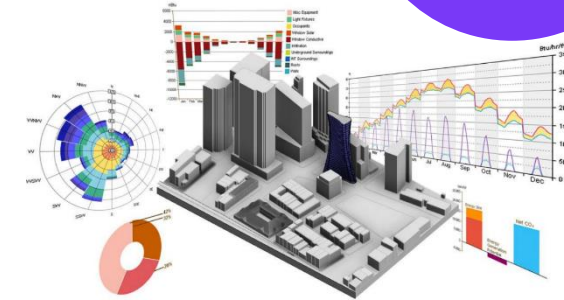
Construction



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

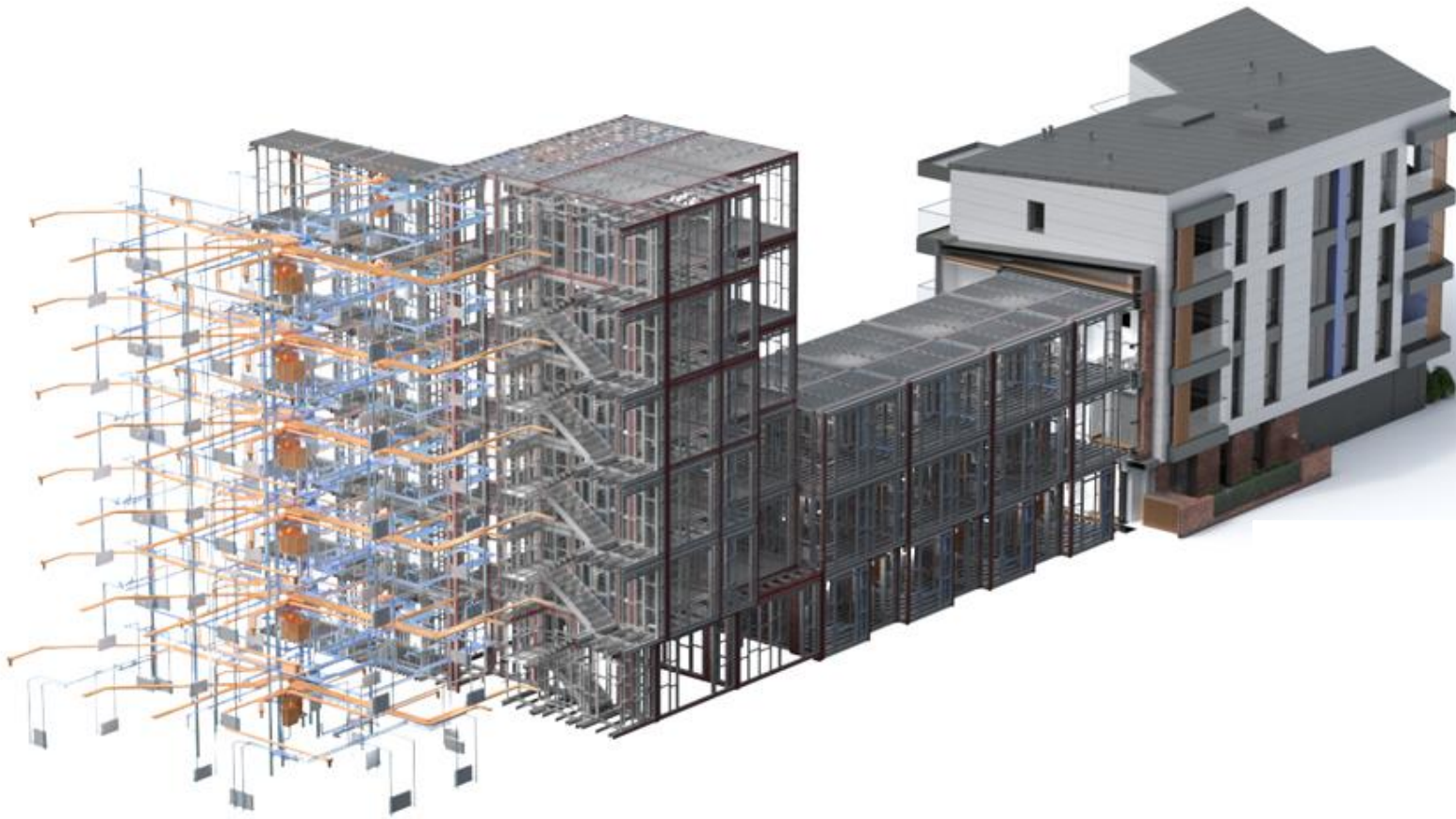


Operations



- Maintenance schedule
- Asset management
- Disaster planning
- Handover model
- Building system analysis
- **Digital Twins**





OFF-SITE MANUFACTURE
HIGH SUSTAINABILITY RATING – Code 4 for Sustainable Homes



Better project outcomes

Project
Tideway Tunnel East

Location
London

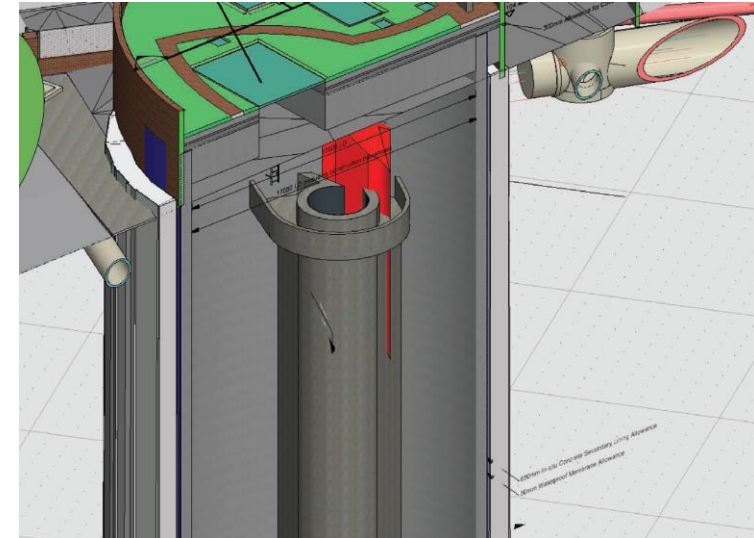
Client
Thames Tideway Tunnel

Expertise
Engineering design and
information management

Project phase
• Construction efficiency



Figure 1. Thames Tideway Tunnel main work sites



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

Source: Mott MacDonald

Global public sector actions

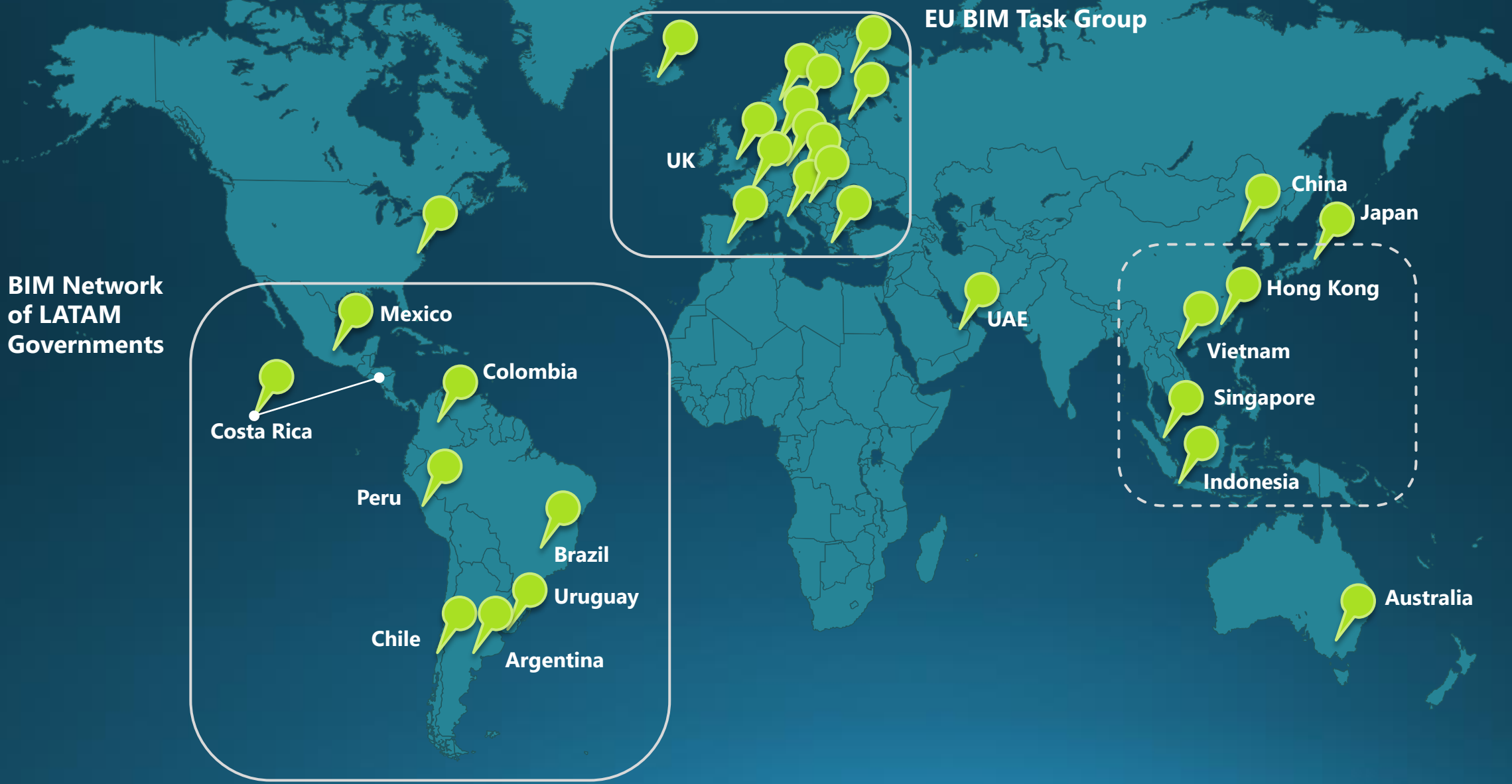
National BIM programs

2015



BIM Programs Worldwide

2022



BIM Network of LATAM Governments

- Mexico
- Colombia
- Costa Rica
- Peru
- Brazil
- Uruguay
- Chile
- Argentina

EU BIM Task Group

- UK

- China
- Japan
- Hong Kong
- Vietnam
- Singapore
- Indonesia

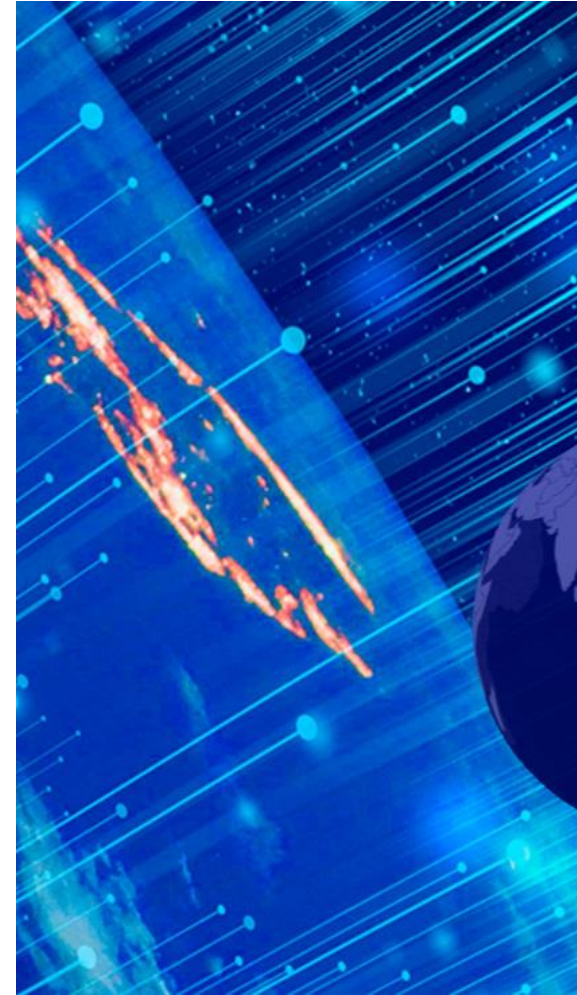
UAE

Australia

Convening Global Action

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.

[Learn more](#)

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

[View Collection →](#)



Collaborative Framework

Legal and procurement documents; technical references; guidance; templates and tools

[View Collection →](#)



Communication & Communities

Communities of practices and websites

[View Collection →](#)



Capability & Capacity Building

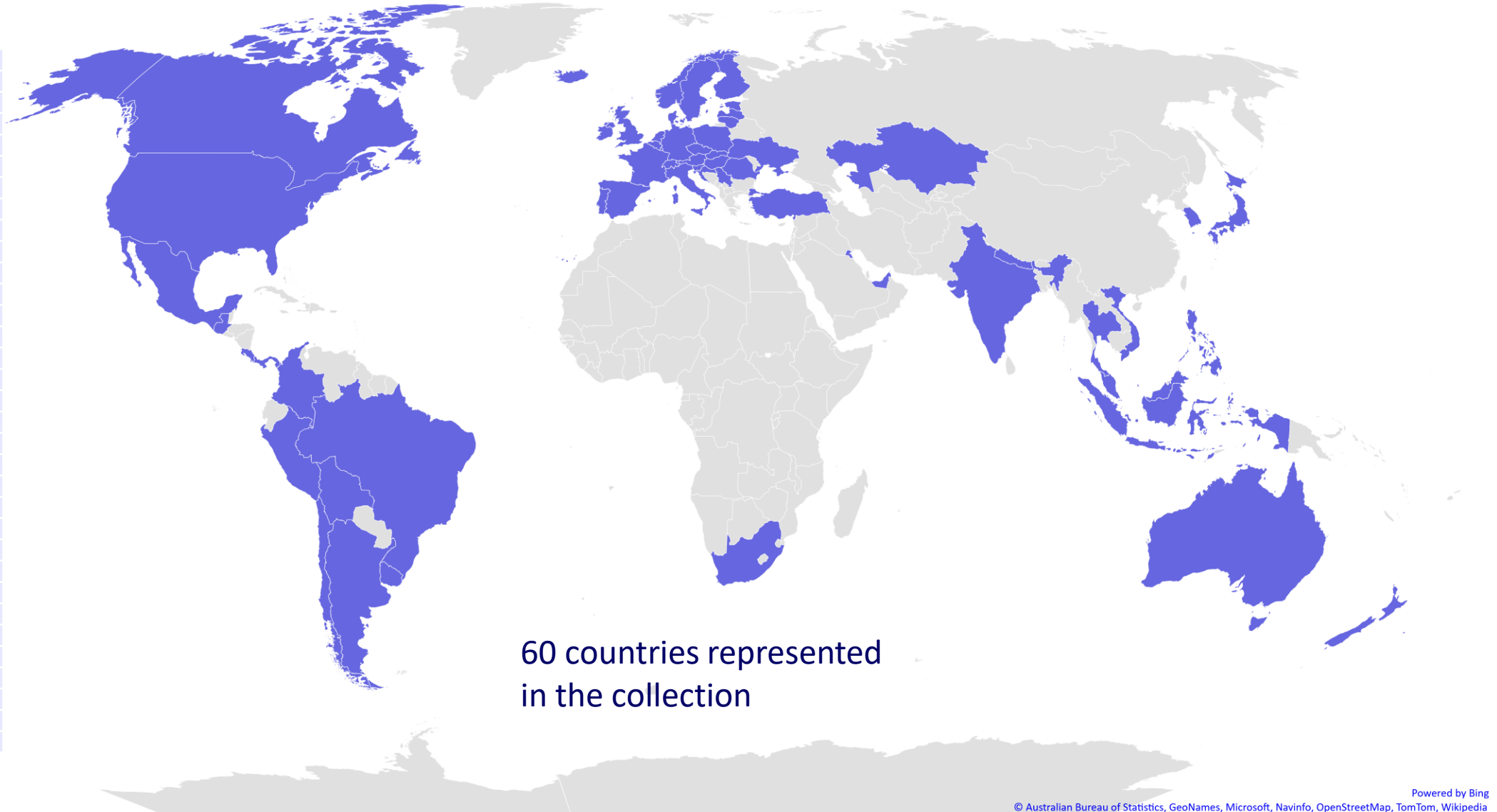
Training; case studies and human capital metrics

[View Collection →](#)

<https://www.globalBIM.org>

Information Collection: www.globalbim.org

Africa	Europe
Kuwait	Austria
South Africa	Belgium
UAE	Croatia
Asia	Czech Republic
Hong Kong	Denmark
India	Estonia
Indonesia	Finland
Japan	France
Malaysia	Germany
Nepal	Hungary
Philippines	Iceland
Republic of Korea	Ireland
Singapore	Italy
Thailand	Kazakhstan
Vietnam	Latvia
Latin America	Lithuania
Argentina	Luxembourg
Bolivia	Netherlands
Brazil	Norway
Chile	Poland
Colombia	Portugal
Costa Rica	Regional
Guatemala	Romania
Mexico	Serbia
Panama	Slovakia
Peru	Slovenia
Uruguay	Spain
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Canada	Switzerland
USA	Turkey
Oceania	UK
Australia	Ukraine
New Zealand	



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Adoption of International Standards*

Status of ISO 19650-2	Number of Countries
Published	44
In Development / Review	5
Recommended	1
In Evaluation	4

Argentina
Australia
Austria
Belarus
Belgium
Brazil
Bulgaria
Chile
Colombia
Costa Rica
Croatia

Czech Republic
Denmark
Estonia
Finland
France
Germany
Hong Kong
Hungary
Iceland
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Israel

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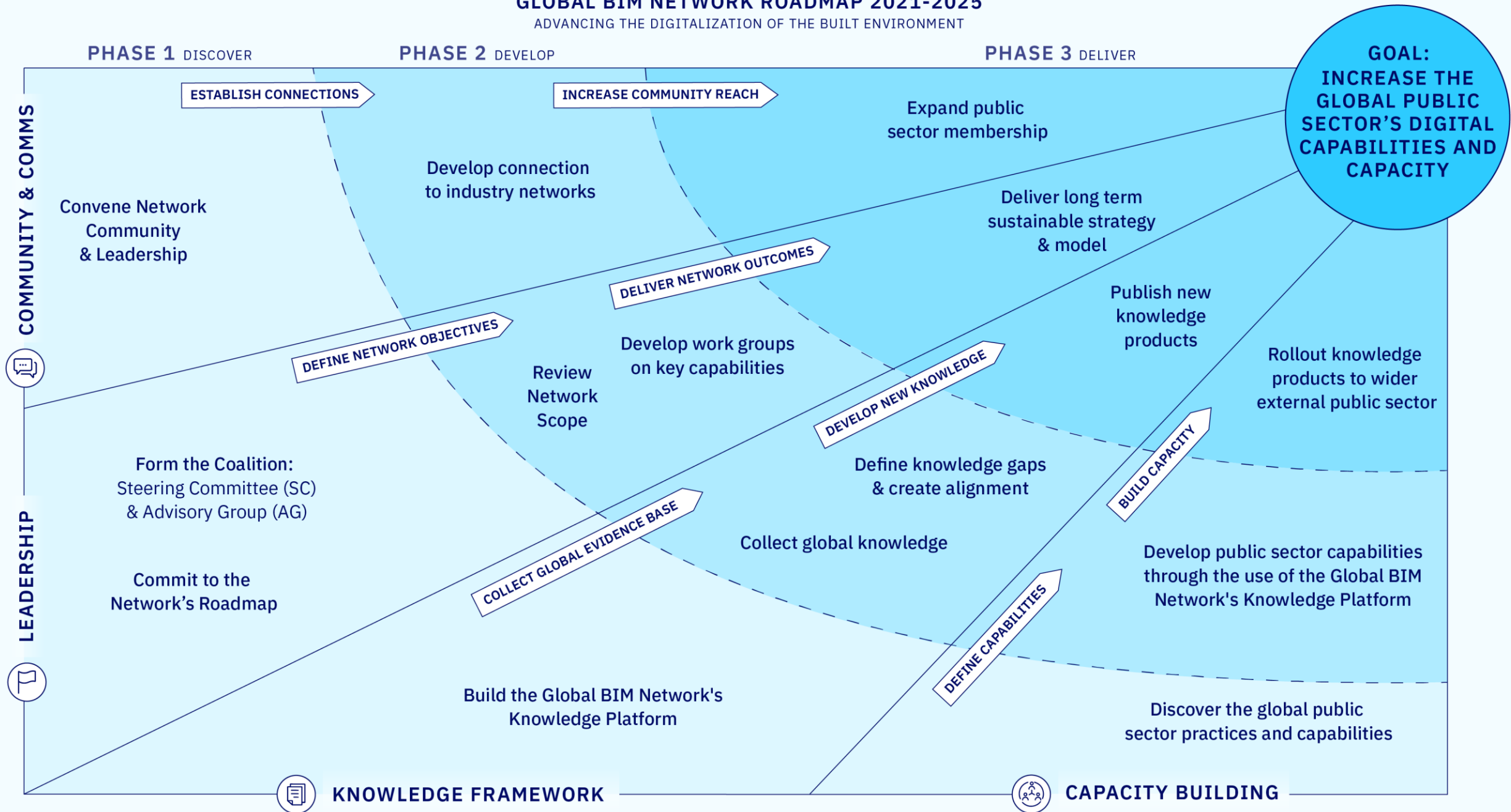
Poland
Portugal
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Slovenia
Spain
Sweden
Switzerland
Turkey
Uruguay

*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 NETWORK ROADMAP 2021-2025

ADVANCING THE DIGITALIZATION OF THE BUILT ENVIRONMENT



<https://www.globalbim.org/roadmap>

Global BIM Information Collection Webinar

<https://youtu.be/P3GaT9NBGMs>

BIM | Global Network

INTERACTIVE INFOGRAPHIC

BIM around the globe: a preview of the global BIM knowledge base

Singapore

← About

NATIONAL

Construction Industry Transformation Map (ITM)
Construction ITM is an industry transformation roadmap envisioning integrated sectors through widespread digital adoption, to spur business opportunities.

The roadmap focuses on three key areas:

- Design for Manufacturing & Assembly (DfMA)
- Green Buildings
- Integrated Digital Delivery (IDD)

Visit:
Construction Industry Transformation Map

Estonia
France

ORGANIZATIONAL

Integrated Digital Delivery

<https://www.globalbim.org/news>



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