

## BRIEFING NOTE

# The Business Value of Adopting openData via Industry Foundation Classes (IFC)

*Unlocking Commercial Value through Open Data in Property,  
Design, Construction & Facility Management.*

Written and prepared by buildingSMART UK & Ireland, for a global audience, as a summary of the full report (*bSUKI-bSUKI-XX-XX-RP-CH-000009\_P4\_Business Case for IFC*), which is a precursor to the buildingSMART International 'openBIM Business Value' project quantifiable findings.

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## **Briefing Note: The Business Value of Adopting openData via Industry Foundation Classes (IFC)**

**Prepared for:** Government & Regulatory Officials

**Source:** buildingSMART UK & Ireland (2025)

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### **1 Purpose**

To outline how **Industry Foundation Classes (IFC)**; the international open data standard for digitally describing the built environment (ISO 16739-1), can transform government performance, enhance building safety, and enable efficient, transparent, and future-proof delivery of public (& private) assets.

### **2 Context**

The construction and property sector underpins national prosperity and yet remains one of the least digitised and least productive parts of the economy.

- Global projects exceed budgets by 20–30 %, and 70 % experience delays.
- Fragmented supply chains and incompatible software formats lead to rework, waste, and opaque accountability.
- Governments are under pressure to deliver safer, greener, data-driven infrastructure while meeting ESG and net-zero commitments.

At the core of these challenges is a lack of data interoperability. IFC provides a proven mechanism to resolve it.

### **3 What is IFC?**

- A software-developer-neutral, openData standard maintained by buildingSMART International, and published as ISO 16739-1 (first published in 2013 and fully updated in 2018, and most recently in 2024)
- Defines how information about buildings and infrastructure is structured and exchanged.
- Enables “one data structure, multiple use-cases” across planning, design, construction, operation, and regulation.
- Acts as a digital common language of the built environment, underpinning the UK's *Golden Thread*, the EU *Digital Product Passport*, and national digital-twin initiatives.

### **4 Why Governments Should Act**

#### **4.1 Faster, Cheaper, Smarter Approvals**

- IFC-based submissions enable automated rule-based checking of planning, fire, accessibility, and energy codes.
- Global pilot programmes have demonstrated 30–60 % faster regulatory assessments.

#### **4.2 Transparency & Accountability**

- Provides an auditable digital record of what was designed, approved, and built.
- Supports the *Building Safety Act* and the *Golden Thread* through 'data sustainability' (accessible and readable forever) and by linking every change to a responsible party.

#### **4.3 Better Procurement & Lifecycle Value**

- Mandating openBIM deliverables in IFC reduces lifecycle cost by up to 10 %, cuts RFIs by up to 50 %, and accelerates delivery by over a month on average.

- Avoids software data lock-in, stimulates innovation, enables SME participation, and promotes fair competition.

#### 4.4 Smarter National Assets

- IFC data integrates with GIS, IoT sensors, and asset-management systems to enable predictive maintenance, contributing to greater climate resilience.
- Example: *smartBRIDGE Hamburg* used 10,000 IFC objects to monitor bridge health, dynamically.

#### 4.5 International Leadership & Compliance

- Aligns UK policy with EU Level(s), UN Habitat, and OECD open-data principles, reinforcing the UK's digital leadership.

## 5 The Policy Opportunity

### Challenge

Disjointed regulatory submissions

Inefficient procurement

Poor building-safety oversight

Fragmented lifecycle data

Limited ESG transparency

### IFC-Enabled Response

Machine-readable IFC models allow automated checks

Open data ensures comparability and fair competition

Golden Thread traceability using IFC + BCF issue tracking

Continuous data from planning to operation

Structured, verifiable carbon and performance metrics

## 6 Implementation Roadmap (Public-Sector Focus)

- Define Information Requirements:** Establish *Information Delivery Specifications (IDS)* for key asset types.
- Pilot Projects:** Test IFC submissions on a limited number of planning or infrastructure schemes; capture ROI.
- Digital Readiness:** Audit software against *buildingSMART Software Certification*; upskill staff and regulators through the buildingSMART International Professional Certification programme.
- Automate Validation:** Deploy free/open IFC checkers and link issue resolution via BCF.
- Connect Data to Dashboards:** Integrate IFC outputs into Power BI/Tableau for dynamic oversight of cost, risk, and carbon.
- Scale & Institutionalise:** embed IFC in procurement frameworks, national standards, and regulatory guidance.

## 7 Strategic Benefits to Government

### Outcome

**Efficiency**

**Transparency**

**Safety & Compliance**

### Impact

Reduces administrative workload, shortens approval cycles, improves inter-agency coordination

Strengthens public confidence and auditability of decisions

Supports enforceable, data-driven regulation under the Building Safety Act

<b>Outcome</b>	<b>Impact</b>
<b>Sustainability</b>	Enables repeatable ESG reporting and lifecycle carbon reduction
<b>Economic Growth</b>	Builds a competitive, interoperable digital construction sector
<b>Data Sustainability</b>	Data is securely accessible, and can be interrogated or analysed by a huge range of software and services.

## 8 Key Recommendations

- a) **Adopt IFC as the default data standard** for all central- and local-government building and infrastructure projects.
- b) **Amend procurement frameworks** (e.g., Crown Commercial Service, Infrastructure & Projects Authority guidance) to require IFC deliverables.
- c) **Integrate IFC into regulatory systems**, including planning portals, safety gateways, and asset registers.
- d) **Fund pilot programmes** demonstrating automation of compliance checking and digital-twin integration.
- e) **Collaborate internationally** through buildingSMART to share best practice and harmonise standards.

## 9 Conclusion

IFC transforms construction from a document-driven industry into a **data-driven public-service enabler**.

It provides governments with the visibility, assurance, and interoperability needed to deliver safer buildings, achieve net-zero goals, and optimise public spending.

**One open data format. Multiple public outcomes. Real-world results.**

## 10 Further Information

### 10.1 buildingSMART International Award Winners

<https://www.buildingsmart.org/past-openbim-awards/>

### 10.2 buildingSMART UK & Ireland

<https://wearenima.im/bsuki-introduction/>

### 10.3 Gov.uk - Understanding the Golden Thread

<https://buildingsafety.campaign.gov.uk/building-safety-regulator-making-buildings-safer/building-safety-regulator-news/understanding-the-golden-thread/#:~:text=The%20introduction%20of%20a%20golden,as%20residents%20and%20emergency%20responders.>

### 10.4 buildingSMART International Report: Global openBIM Mandates

[https://www.buildingsmart.org/wp-content/uploads/2025/03/IFC-Mandate\\_2025.pdf](https://www.buildingsmart.org/wp-content/uploads/2025/03/IFC-Mandate_2025.pdf)

### 10.5 buildingSMART International openBIM Business Value project

<https://www.buildingsmart.us/openbim-business-value>