

GEOSMART INDIA 2021

**THEME ADVANCING THE ROLE OF GEOSPATIAL
KNOWLEDGE IN INDIAN ECONOMY**



24-26 August 2021



HICC Hyderabad, India

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BIM Policies for Indian AECO sector;

Sandeep Arora- Head Built Environment



By Royal Charter

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What is BIM?

- Building Information Modelling (BIM) is a **collaborative way of working** for the construction industry, **underpinned by digital technologies**, which allow for **more efficient methods** of designing, delivering and maintaining physical built assets throughout their entire lifecycle
- It can be used for both building and infrastructure projects
- **Greater efficiencies can be realised** due to significant preplanning during the design and construction phases, providing comprehensive information at handover stage.

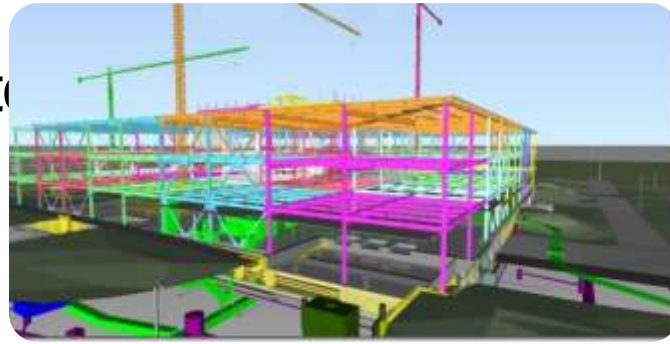
What is BIM aiming to achieve?

Put simply, to **increase efficiency of the Construction process..**

- Save time
- Reduce waste
- Increase consistency of information
- Increase collaborative working
- Avoid late penalty fines
- **Reduce costs** – estimates indicate that UK Government has saved £840m through the use of BIM, on average 20% savings.



Technology to



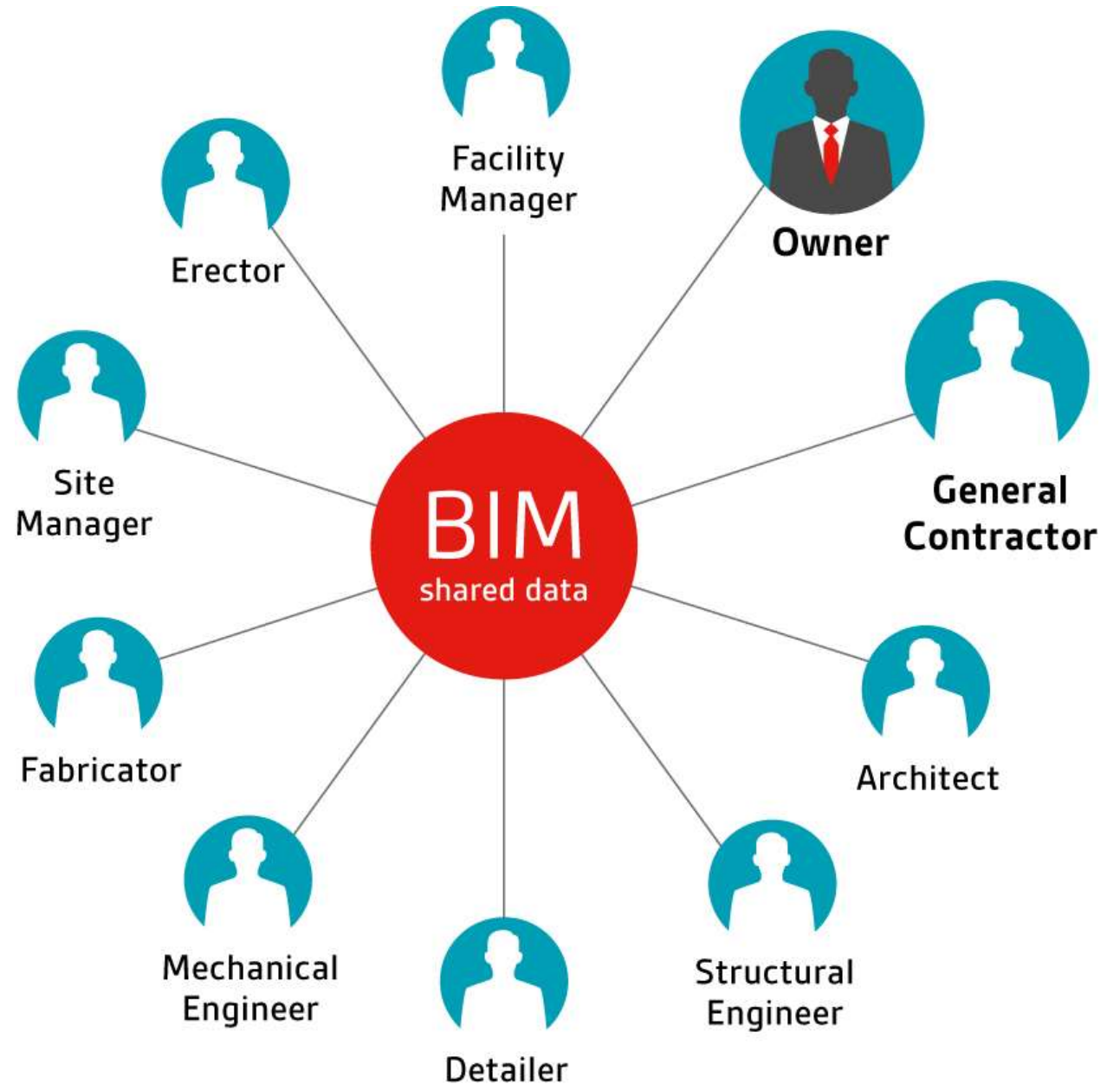
action



How does BIM do this?

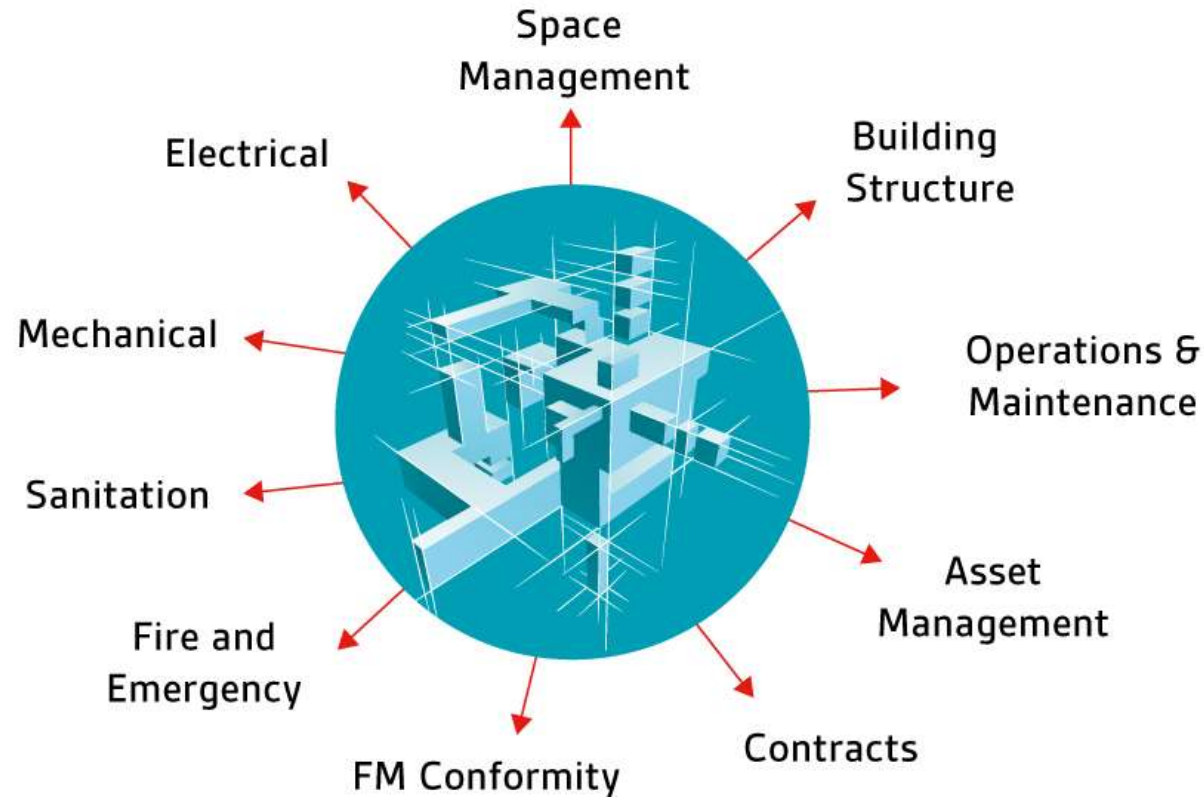
life cycle of the building

Sharing of data allows for coordination of not just 3D building elements, but scheduling and maintenance data as well..



How does BIM help at handover stage?

**Effective handover
– 'soft landings'**



**Reduced operating
costs & carbon
emissions**

**Improved asset
information**

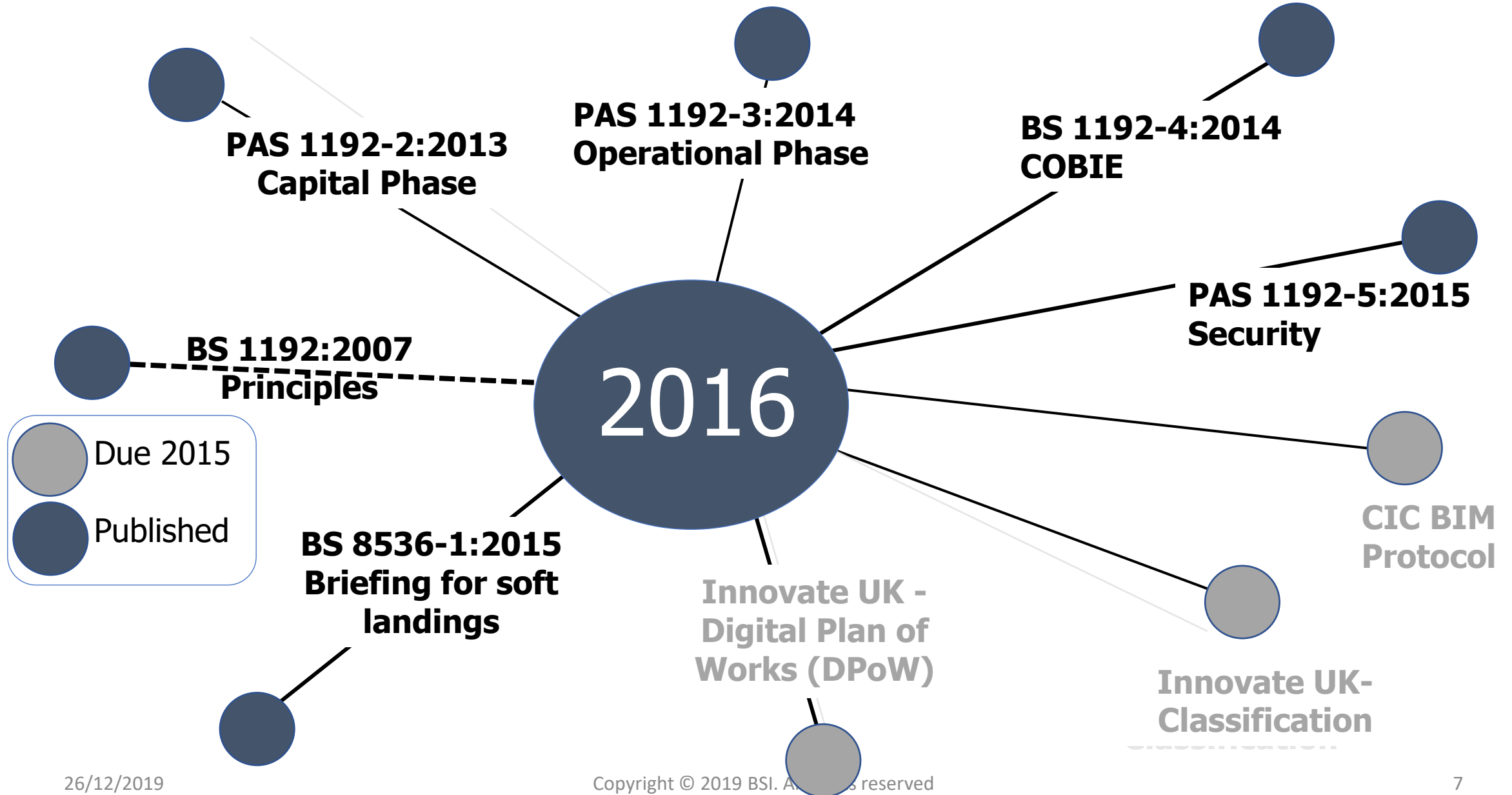
**Reduced
maintenance costs**

Enhanced whole-life savings and performance



Key Standards for BIM

BIM Level 2 Tool Set – serving Government and Industry



BSI's active involvement

- B/555 - has been our strategic BIM Technical Committee since 2006, and brings together

Government representatives and all parts of the Industry

- The Level 2 BIM Roadmap was developed here in 2010
- Responsible for the development of our national BIM Standards
- Provides input to CEN & ISO on BIM matters - where the UK leads the way
- BSI hosts an annual BIM Conference
- BSI is a Partner of the BIM Task Group
- Involved at International Level



Building Information
Modelling (BIM)
Task Group

Introducing the new ISO 19650 Building Information Modelling (BIM)

- **What is the ISO 19650 series of international standards?**
- ISO 19650 is the series of international standards for Building Information Modelling (BIM). It defines the collaborative processes for the effective management of information throughout the delivery and operational phase of assets when BIM is being used.

Why move from UK to international standards?

- The global construction industry is booming, bringing with it global construction projects and the need for efficient tools such as Building Information Modelling (BIM) for managing information.
- Two new International Standards (ISO 19650 Parts 1 and 2) have just been published to enable BIM to flourish across projects and borders, benefitting the industry as a whole.

What are the new standards?

NEW BS EN ISO 19650-1:2018

Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) – Information management using building information modelling –

Part 1: Concepts and principles – with UK National Foreword

NEW BS EN ISO 19650-2:2018

Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) – Information management using building information modelling –

Part 2: Delivery phase of the assets – with UK National Annex

BS EN 19650-2 includes a UK National Annex which references UK-specific content from the (now withdrawn) standards. The standards are available to buy from the BSI shop, together with a transition document PD19650-0:2019

What has been withdrawn?

BS 1192:2007+A2:2016, PAS 1192-2:2013. Note: these standards will be available but won't be maintained.

BSI BIM Certification Model



Specifier/Client



This can include Governments, public bodies as well as individual clients

Main contractors



Tier 1 organisations using BSI Kitemark™ to differentiate and Verification Certification as evidence of compliance

Supply chain partners



Verification Certification helping with supply chain management



A thick teal arc curves across the top and right side of the slide, framing the content.

Why BSI BIM certification?

Why certification for the Executive Board



**BIM Verification
Capital/Delivery
ISO 19650-2**

- Evidence of BIM Level 2 compliance
- 3rd-party evidence to support tender documents



**Collaborative Business Relationships BS
11000**

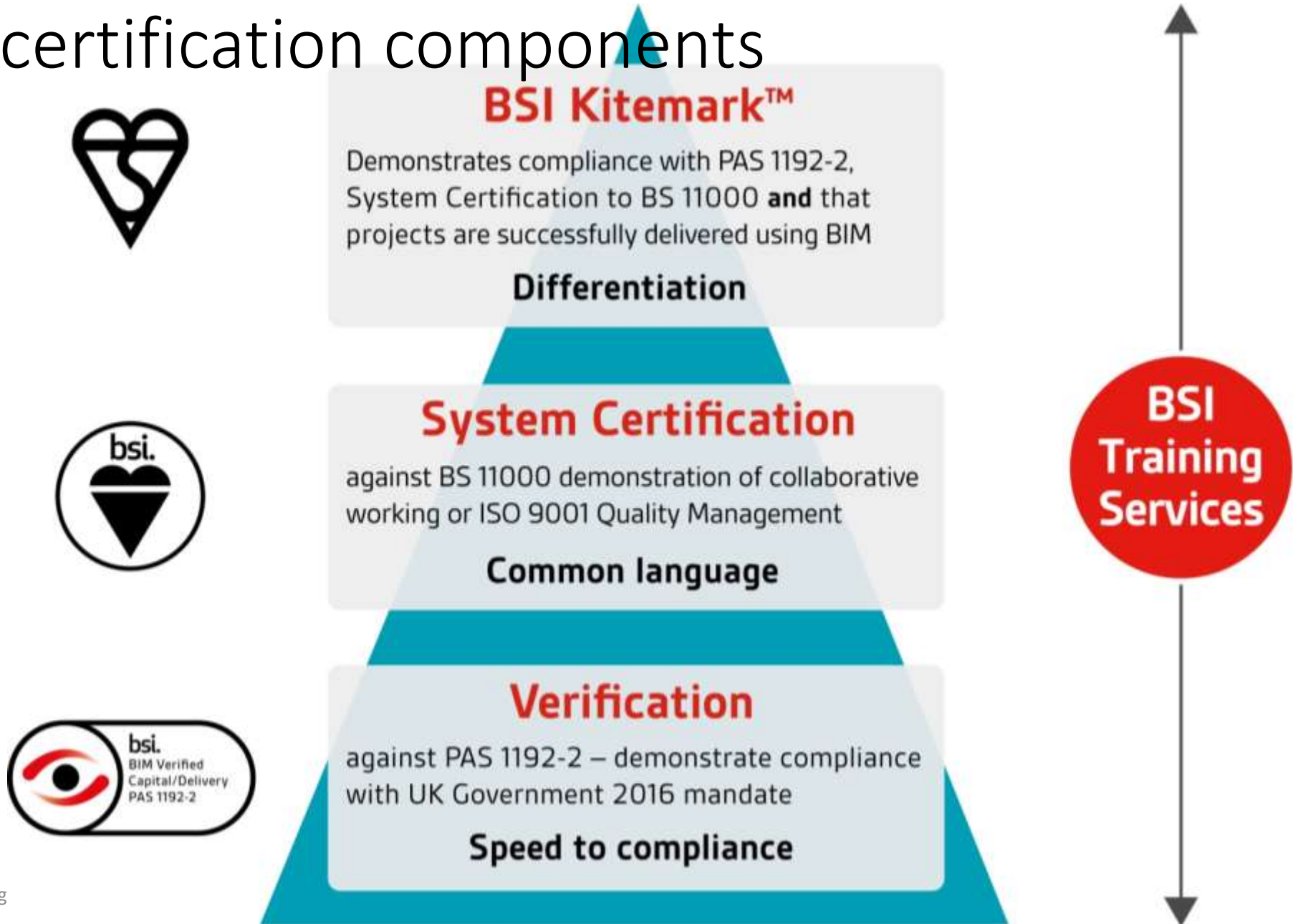
- Evidence to support collaborative tenders
- Can support strategic goals to move into new areas and tender for joint ventures
- Spreads the cost of significant projects
- Spreads the risk and therefore can protect reputation



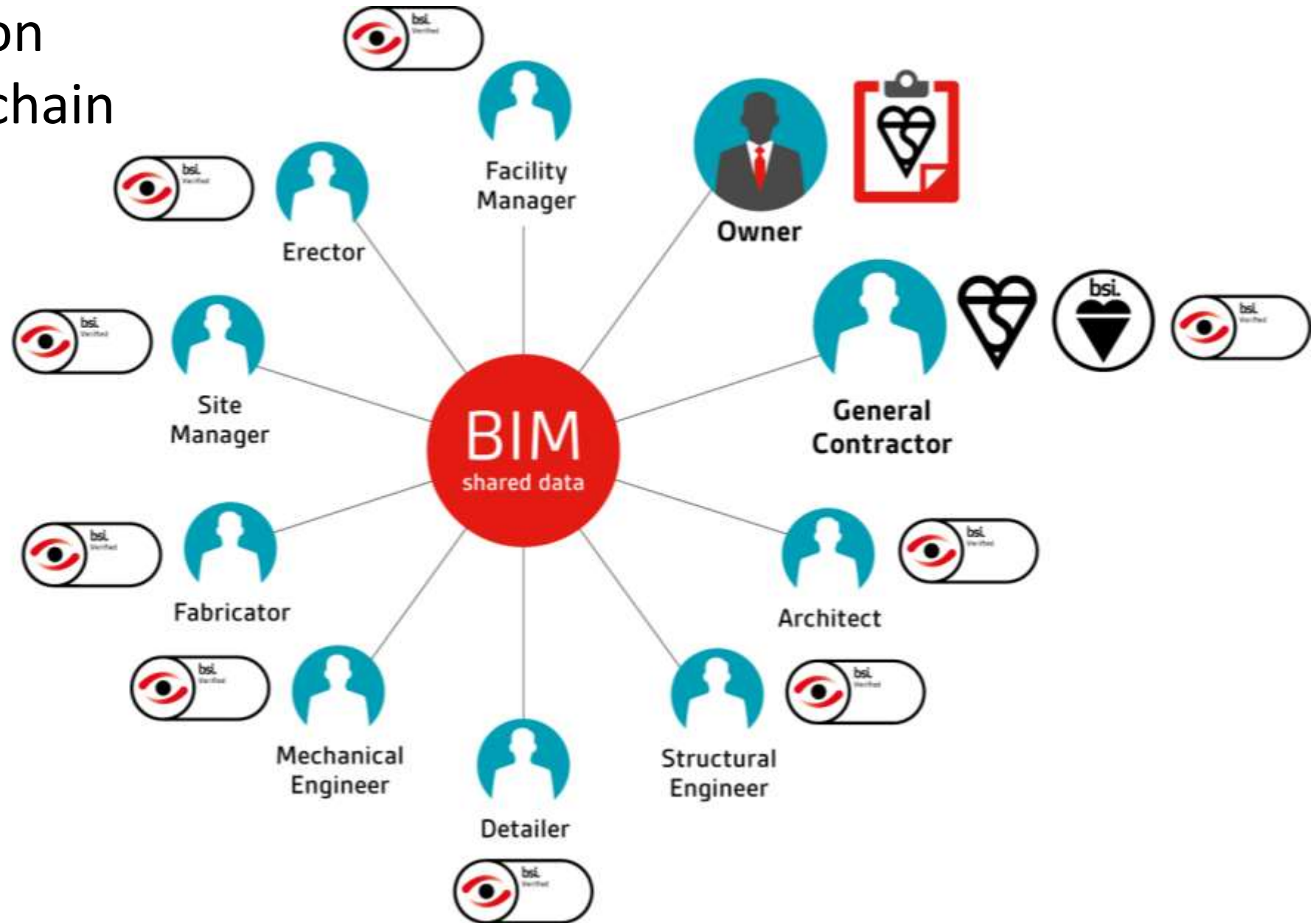
BSI Kitemark™

- Market differentiation
- Strategic business growth tool through reputation for quality and trust
- Brand strengthener
- Final project evidence to support future tender opportunities
- Increased profits, faster delivery
- Client satisfaction

BSI BIM certification components



BSI BIM certification across the supply chain



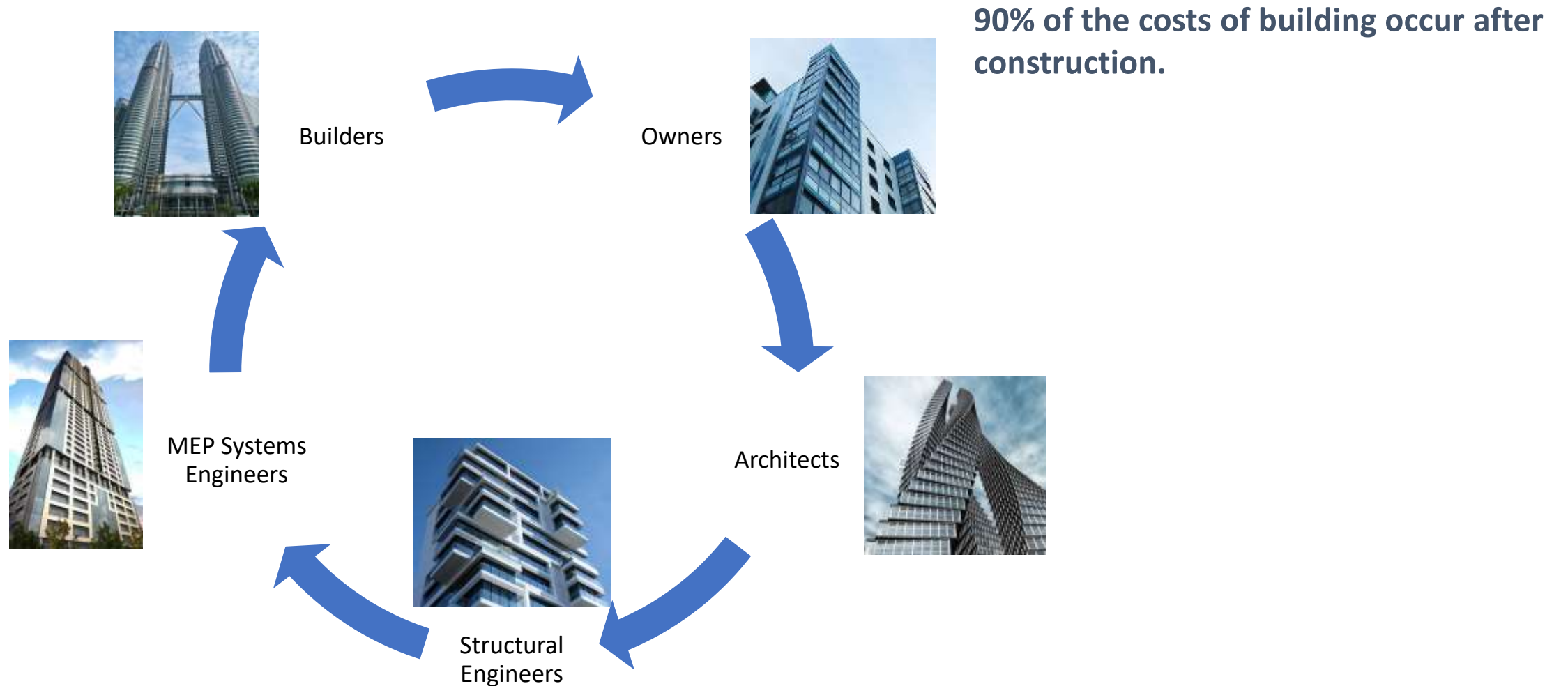
BIM in Facility Management

- Sandeep Arora



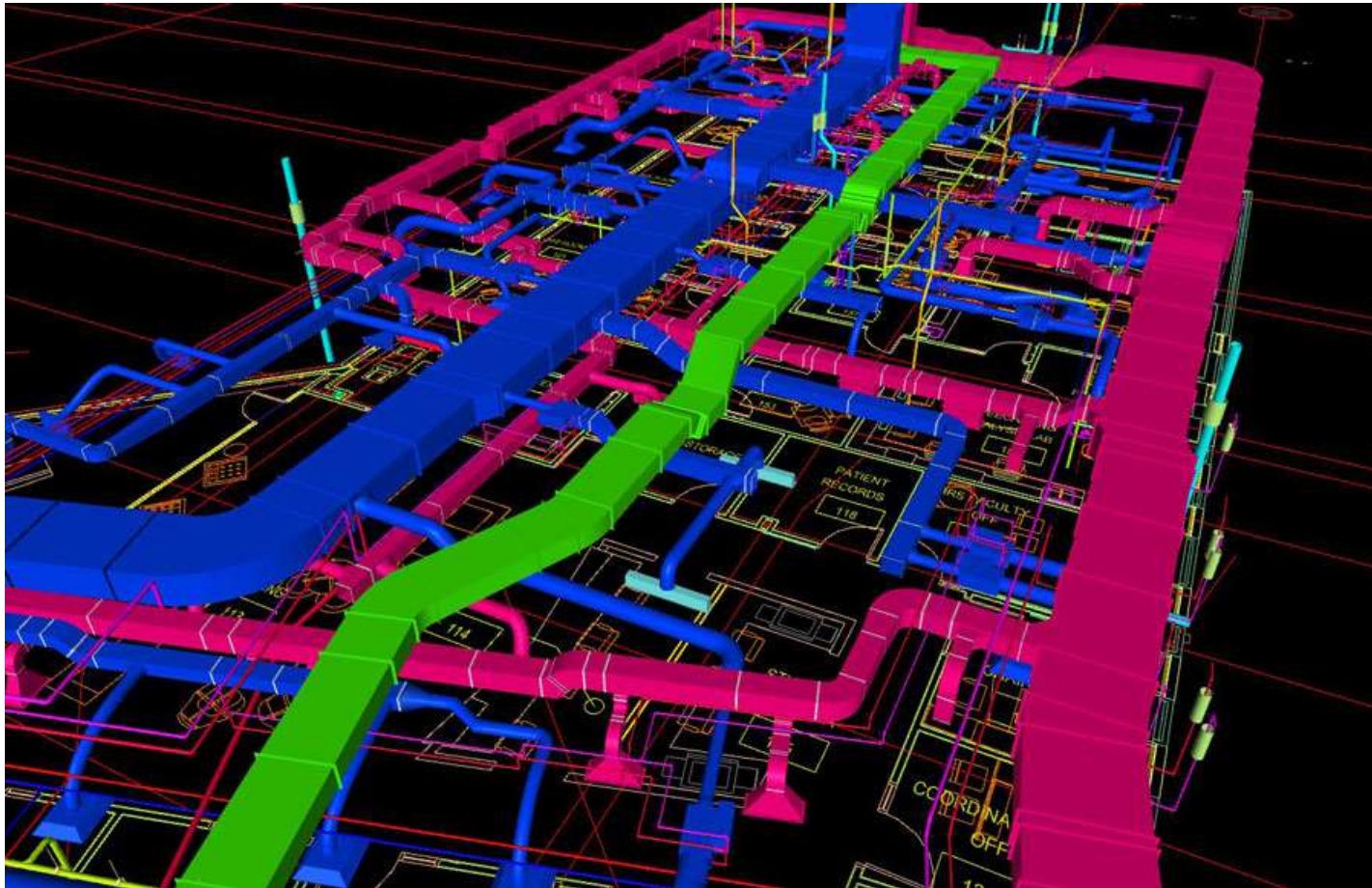
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Information to manage the life cycle of our building



Facility Management Benefits

Integration with maintenance management



Integration Need

Building Commissioning Classic Method

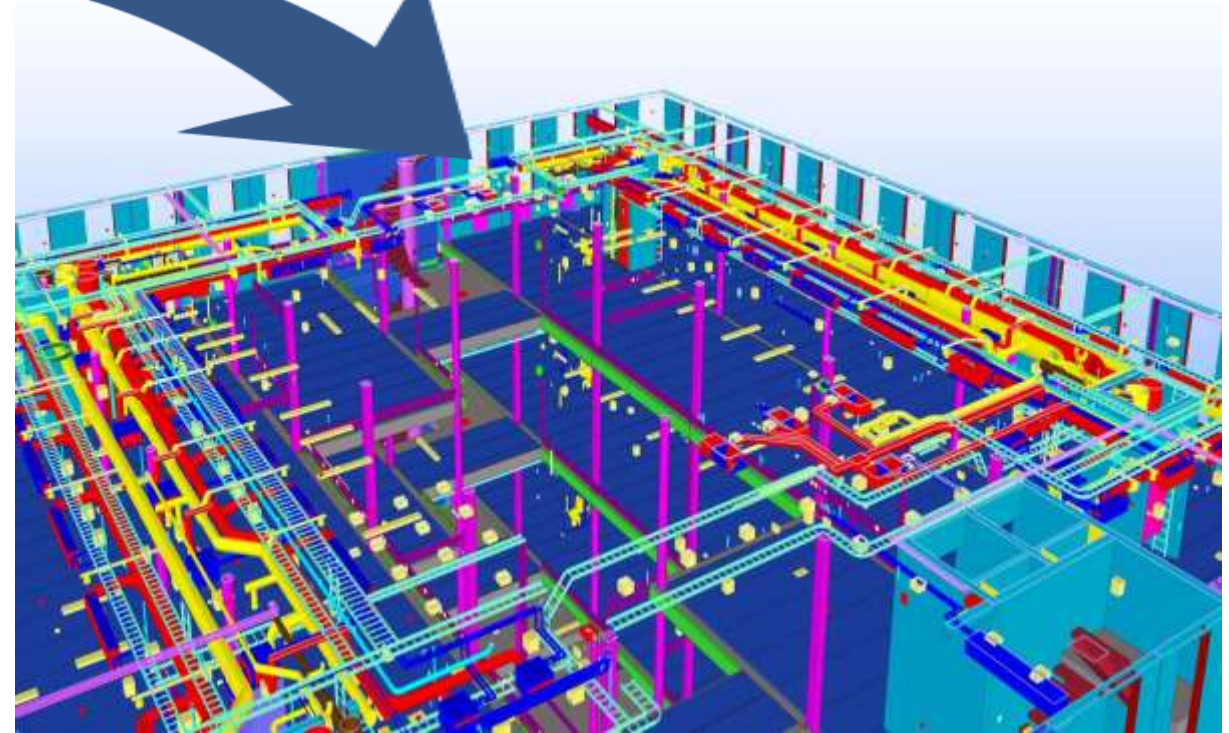


- **Difficult to Access**
- **Impossible to analyze**
- **Hard to update**
- **Time consumption in storing & traceability**

Integration Benefits

The “Electronic Owner’s Manual”

Replacing 3-Ring Binders with a live information system



Facility Management Benefits

Change Management

Total Cost of Ownership Management



Construction industry does not understand FM

- There is a gap in the value that FM gives to the built environment.
- Construction industry requires cultural change to accept FM as a part of the process.
- A dominant barrier to BIM adoption is that facility managers are not being engaged in the early phases of a facility lifecycle. Hence, facility managers are not able to specify the required data and this results in a widely use of reactive approach.
- Studies show even if they were involved in the early stages of projects, they were not seen as valuable participants. Furthermore, facility managers shortage of BIM skills is another barrier in the adoption of BIM

Conclusion

As BIM gains significant importance in the AECO industry, and most governments aim a target of fully BIM utilization, it seems that integration of BIM and FM systems is an inevitable event. BIM is a central repository of information saved all over the projects lifecycle. Studies show that facility managers can benefit from the advantages of BIM to enhance managing the intensive amount of information. However, integration of BIM and FM systems faces serious problems. There are some technical and nontechnical barriers to adopt BIM for FM.

It is showed that further research is needed to enhance the integration of BIM and facility management systems which is aligned to fully utilization of BIM, in order to improve the construction industry productions

Thank you



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