

KILL BIM OR MOVE BEYOND BIM?

IS BUILDING INFORMATION MODELLING KEEPING PACE AND MATCHING USERS' PROCESSES AND PRACTICES? IS IT EVEN IMPORTANT AND NECESSARY? **ALAN MUSE AND ANIL SAWHNEY** LOOK AT THE STANDARD'S FUTURE

COVID-19 is accelerating the pace of digitalisation in the construction and infrastructure sector. Industry leaders are now readily embracing technology to streamline processes, promote compliance to new health and safety requirements, gain insights, predict future trends, and attract talent. For an industry often considered a laggard in technological innovation, this change is both welcome and precedent-setting.

So, what is the role of building information modelling (BIM) in this renewed and accelerated interest in the digitalisation of the industry? Do BIM and the associated use of a common data environment (CDE) still form the bedrock of this transformation? There seems to be some debate and disagreement about the future role of BIM.

Some markets are reporting approximately 70% adoption rate of BIM, but that figure has two parts to it. First, those who have braved the transition to BIM are now concerned that the current state of the technology, especially as it relates to authoring and interoperability, is not keeping pace and matching their processes and practices. A further complication is that the broader influences of BIM beyond the design and preconstruction stages are still limited and fragmented. There are barriers to accurate and seamless data and information transfer from upstream processes to downstream processes over the life of a project. Some are still not convinced that BIM implementation is important and necessary.

Now, there is a philosophical debate in the industry – “kill” BIM or move “beyond” BIM. We

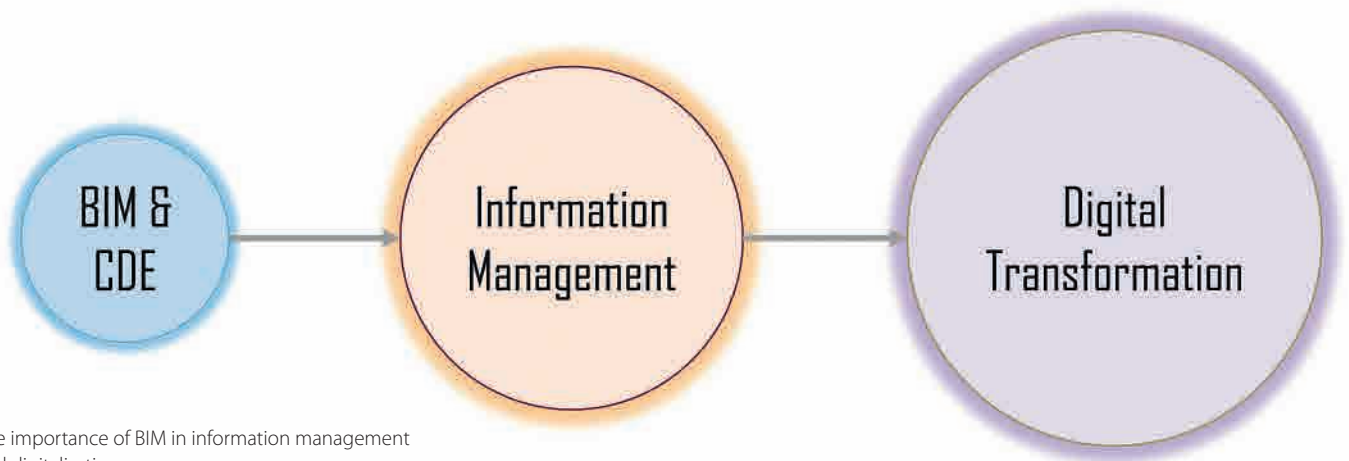
think this is an important debate to develop a roadmap for the digitalisation of our industry.

Realising the importance of this issue, RICS released an insight paper in July 2020 to address the future role of BIM and its significance in digitalisation. As the document was being drafted, the global pandemic hit. Many of the recommendations identified in the paper remain globally applicable and valid, while some have a heightened sense of urgency.

In our paper, we answer a critical question – how is the narrative surrounding BIM changing? We found that the chartered surveyor needs to build on the changes and accelerate the adoption of digital tools and processes that enhance the management of information and continue to respond positively to the challenges set by COVID-19.

BIM and digital transformation

BIM has evolved and merged into a much broader paradigm. For example, many countries have transitioned from their national BIM standards to ISO standards



The importance of BIM in information management and digitalisation

(the ISO 19650 series), and the focus has shifted from considering adoption and implementation of BIM as the end goal to using BIM and CDE as a catalyst to promote a holistic shift towards a model-driven approach to the design, delivery and operation of constructed assets. Information management is rightfully coming to the forefront as a steppingstone to digitalisation.

Information is a valuable resource during the life cycle of a built asset. BIM centres around information and its management and security. It supports the sharing and integration of information and promotes collaboration within the project team. The internationally mandated process emphasizes that the employer/client provides clear, value-driven definitions of their information requirements based on the quality and quantity of information required and the efficient, timely transfer of this information between the various parties at each stage in the project life cycle. The information management perspective allows BIM to be seen through the lenses of people and practice. This shift in perspective and maturing of the use of CDE enable BIM to play a central role in the journey towards the digital transformation of the industry.

Information management

It is crucial to understand how ISO 19650 standards make information management the centrepiece. The role of CDE in this is still vital. The information management worldview accepts that over the life of the project, and then the asset, multiple disciplines, and experts are involved and that the data they need and information they provide will always come from disparate sources and in different forms. Using the concept of an information container, ISO 19650 allows this multi-source and multi-format data and information to come together by defining information container breakdown and federation strategy.

This approach allows for a combination of structured and unstructured information in the delivery processes. Federation not only enables the development of the required information model, but it also promotes collaborative working within the project

team. The CDE supports the collaboration that, in turn, facilitates the collection, management and dissemination of each information container through a managed process. By streamlining project processes and practices, this information-management centric approach helps the industry towards digitalisation by connecting to the emerging trends and technologies of Industry 4.0.

Connections to Industry 4.0

The documented BIM adoption journey of the construction and infrastructure sector from around the globe acts as a roadmap for other markets that are striving to move towards international standards to promote BIM adoption and implementation and spur digital transformation of the industry. The forward-looking discussion surrounding BIM and CDE has encouraged industry leaders to align their thinking with the trends and themes that are part of Industry 4.0. Interconnections between emerging technologies such as the Internet of Things, blockchain, automation, robotics, advanced manufacturing and predictive analytics have taken centre stage.

The extent of this digitalisation is yet unclear. However, it currently includes the automation of production and the use of advanced analytics and predictive tools to enhance decision making. The level of

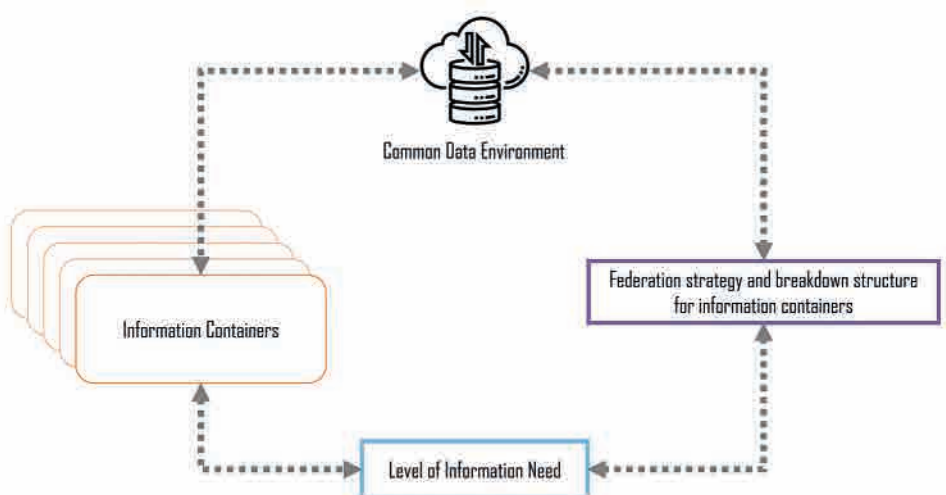
digitalisation is now possible through the creation of a physical-digital-physical loop. Cyber-physical systems and digital ecosystems are playing a pivotal role in this connection to Industry 4.0 tools and trends.

Conclusion

BIM enables the sector to transform itself along the physical dimension – that is, how we construct and produce – and the digital dimension (how we digitalise). Combining these two transformative dimensions with structural and cultural improvements in the procurement and delivery processes will make the sector more efficient.

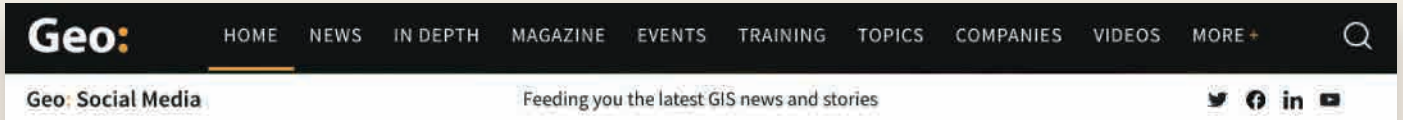
For this to happen, construction and infrastructure sector stakeholders must work together in a collaborative ecosystem to ensure the adoption of digital tools will lead to a more productive environment that will sustain the future of the industry. Broadly, BIM and CDE are still at the heart of the positive influences for our sector.

Alan Muse is the global director of built environment standards and Anil Sawhney is the director of the infrastructure for the RICS (www.rics.org). Their RICS insight paper is available from <https://tinyurl.com/RICSFutureOfBIM>



A common data environment and information containers in ISO 19650

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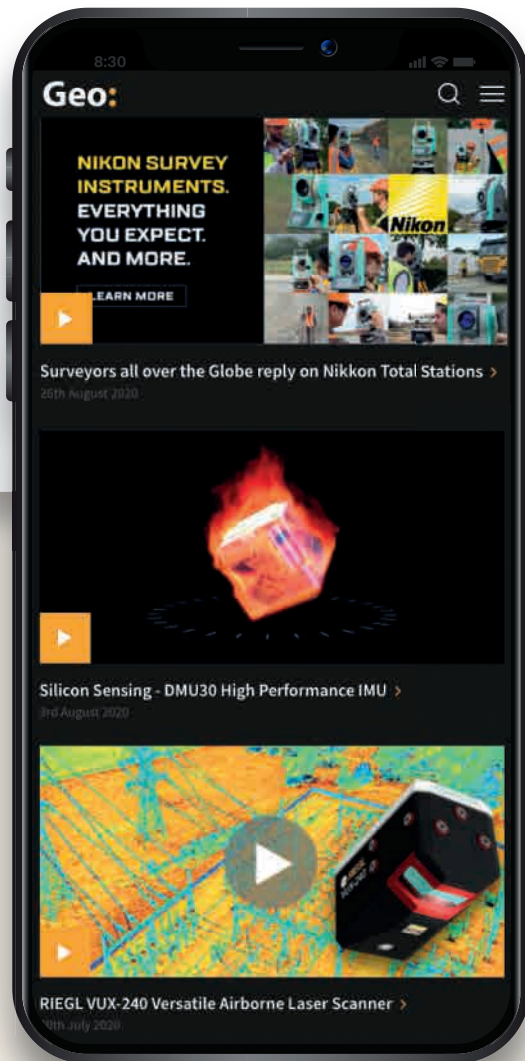


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