



Digitisation of Requirements, Regulations, Standards and Compliance Checking in the Built Environment

Benefits to building/Asset owners/managers, design professions, regulatory bodies, local and national government, building control officers.

“The D-COM network in their initial findings have shown the need for this work to happen and indeed the positive response to compliance checking shifting from a manual endeavour to once that is supported by computer driven automation allowing a swifter and more integrated process. There is a mutualism between compliance checking and digital workflows and now is the time to make it happen.”

David Philp, AECOM & CIOB Trustee and Chair of CIOB Digital Technologies Specialist Interest Group

Summary

The entire lifecycle of the built environment is governed by a variety of regulations, requirements and standards. These requirements range from contractual, project brief, legislative, to environmental. The checking of compliance against these is a complex task that is currently performed on a manual basis thus is highly resource intensive. So far there has been no meaningful adoption of automated compliance checking, which can bring tangible advantages including increased efficiency and a reduction in costs. This opportunity presents a clear need for further research in this area. Thus, D-COM was established to better understand how the built environment can take advantage:

- Conducting a detailed landscape review of applicable industrial and academic developments.
- Consulting with stakeholders.
- Developing a research roadmap for achieving digitisation of built environment regulations
- Defining the capabilities required to deliver this roadmap
- Analysing the results to produce a future research roadmap.

Key Findings

The overarching insights from the D-COM network activities are:

- There is an appetite for automation.
- There were caveats and suggestions, that automation should have human oversight.
- current research landscape revealed that there are ad hoc solutions that have many limitations

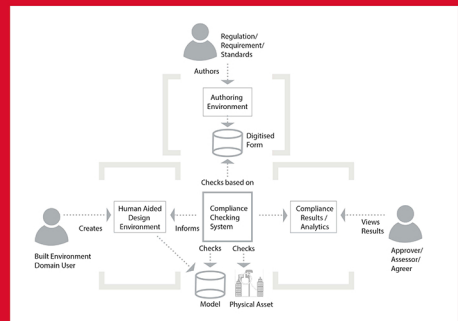
The findings painted an overwhelmingly positive response to transforming the built environments existing compliance system they give confidence that the industry can achieve a level of automation checking by 2025 and expressed the importance of considering political, commercial and technological factors along the journey.

Impact and Value

- Gathered significant data regarding the appetite of the industry for the adoption of automated compliance checking
- Proposed a roadmap for the adoption of digitisation of compliance checking.
- Primary value is stimulation of research and discussion in this area
- Ability of the D-COM network to act as a focal point and hub in this activity.

Long-term Vision

The D-COM future vision for regulatory compliance is a new modern approach, driven by the paradigm shift of “human aided design” where the human guides the computer in developing designs to meet legislative requirements. In this paradigm, both designs and physical assets automatically checked against regulations, requirements and standards. Enabling delivery of a safer and more efficient digital built Britain.



Caption: D-COM Vision for the Future of Regulatory Compliance

Next Steps

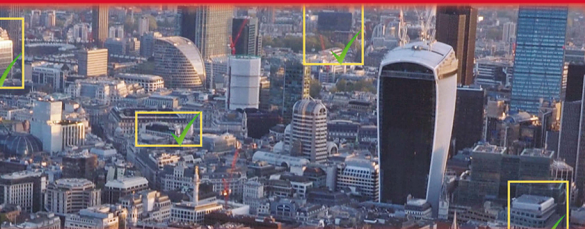
To build industry confidence and work towards the target of mass scaling automation checking in 2025, D-COM proposed the following future steps as part of its roadmap.

Stakeholder engagement: catalogue and prioritise regulations.

Piloting: develop rules alongside a common language and demonstrate working approach.

Industrialisation: build a product or process to meet majority of needs, trial and test.

Scaling: develop audience specific training and guidance, establish methods for user feedback and continually refine.



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