



Construction Knowledge Task Group
www.designingbuildings.co.uk/CKTG

Improving access to construction knowledge

The current situation

All construction industry activities are underpinned by a framework of knowledge which includes standards, regulations, codes of practice, research, innovations, policy, technical guidance, case studies, market insights and training and educational material.

Construction industry data and information have entered the digital age, driven by new data sources and new analytical capabilities, as well as by the adoption of processes such as building information modelling (BIM). In stark contrast to this, construction industry knowledge remains firmly in the past. Poorly specified, managed and disseminated, it remains unstandardised, inaccessible and fragmented. As a result, research and innovations are not adopted, best practice is not followed, standards are not complied with, and lessons are not learned.

Successive reports have called for better knowledge management across the industry [ref], and 38% of practitioners admit they do not have easy access to the knowledge they need to do their job [ref]. This means the industry is less productive and innovative than it could be, and it continues to make more mistakes than it should.

The Get It Right Initiative estimates that avoidable errors cost the industry between £10 billion and £25 billion a year [ref], and the Infrastructure and Projects Authority's *Transforming Infrastructure Performance* identified a £15 billion productivity opportunity in construction [ref].

A new approach

The industry is beginning to change, driven by groups such as the Construction Leadership Council and the Infrastructure Client Group. The government recognises the opportunity for the industry to transform itself and has committed support through the Construction Sector Deal and the Industrial Strategy Challenge Fund.

The key foundations to this transformation lie not just in a digital approach to data and information, but also in a move to smarter digital knowledge. Knowledge must be treated as a highly valued resource. It needs to be prepared, managed and disseminated in a way that ensures the right people have the right knowledge at the right time, allowing them to optimise performance, improve productivity and ensure compliance.

Construction Knowledge Task Group

The [Construction Knowledge Task Group](#) (CKTG) has launched an initiative to make construction knowledge smarter, helping deliver the full value of digital construction. 20 organisations from across the industry have agreed a Memorandum of Understanding committing to develop solutions for smarter construction knowledge:

- Creating a common standard for the way knowledge is prepared, making it is easier to identify the right knowledge for every situation.
- Improving access to knowledge, whatever its source.
- Improving the management of knowledge, so it can be integrated into industry systems.

This initiative supports the vision for Digital Built Britain and will help deliver the full benefits that a digital approach to the built environment can achieve.

Smart knowledge delivery plan

A routemap had been prepared by the CKTG using the concept of 'maturity levels' developed for the roll-out of BIM. This will take construction knowledge from its current position (Level 1) towards a vision for smart, accessible knowledge represented by Level 3.

The current position				
Level 0	Level 1	Level 2a	Level 2b	Level 3
Paper Printed documents sitting on shelves.	Digital Digital versions of printed documents on siloed servers, often with restricted access.	Searchable All industry knowledge can be searched intelligently with a single query.	Accessible All industry knowledge can be accessed using a single log in.	Smart Knowledge can be accessed by project systems, based on each team members current activities.
Practitioners have to know they need to know something. They then need to know about, and have access to the right physical document. This requires extensive duplicated libraries.	Practitioners need to know about, and have access to the right digital document. This requires multiple subscriptions to, and searches of, many fragmented knowledge sources.	Practitioners still need to know that they need knowledge - but when they do, and they have access to it, they find the best knowledge faster.	Practitioners do not have to repeatedly log into and out of multiple, fragmented systems to find what they need.	Critical knowledge can be 'pushed' to practitioners automatically when they need it - so they don't need to know there is something they need to know.
Requirements to move to the next levels:		A standard classification of knowledge, including: form, subject, project stage, discipline, sector, author, organisation, source, status and permissions. Adoption of the classification by knowledge producers. Custom search tools.	A protocol for practitioner identification. A third party identity authentication tool.	A standard classification of practitioner context, including: profession, organisation, memberships, sector, project stage and subject. Tools to push critical knowledge to practitioners.

First step

The first step in the delivery of smart accessible construction knowledge is the development of an industry-wide standard for 'tagging' construction knowledge, along with guidance supporting adoption of the standard by knowledge producers. This will establish an industry-wide knowledge framework, allowing the development of tools to help practitioners search, manage, curate and apply the knowledge they need, when they need it.

Find out more

More information about the CKTG can be found at www.designingbuildings.co.uk/CKTG.

If you would like to discuss opportunities to help deliver smarter construction knowledge please contact the CKTG chair Dr Gregor Harvie at gregor.harvie@designingbuildings.co.uk.

CKTG members

AEC3 UK, AHMM, Arup, BRE, BSRIA, CIAT, CIBSE, CIOB, Constructing Excellence, Construction Leadership Council, Cundall, Designing Buildings Wiki, Hoare Lea LLP, i3P, ICE, IHS Markit, Invennt, Loughborough University, Mace, Pearson UK Ltd, Polypipe, RIBA, Royal Institution of Chartered Surveyors, Rider Levett Bucknall, SRM, Stroma, The Get It Right Initiative, UKGBC, University of Dundee.