
Guest editorial: Role of research for standards within the built environment

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This special issue is about standards relevant to facility management (FM) professionals. The inspiration for the special issue came from the editorial team's personal experiences, as – we are all researchers in the field of FM as well as experts in the area of FM standardisation.

We see the need to build a bridge between these two communities we represent – the researchers and those developing standards (Klungseth *et al.*, 2022). We believe the benefit of such bridging can create valuable contributions both to research and practice and fast forward innovations within the profession. As such, we devised a roadmap to help bridging the two communities. Our first step was an article for the CIB-World Building Congress (2022), examining how research dealt with standards in the built environment and in particular for FM (Klungseth *et al.*, 2022). Our second step was to launch this special issue in *Facilities* and to issue a call for papers and research looking into the relation between research and standards in FM. After we launched this special issue, we took on the third step, that is, to initiate a conference on the topic, the joint-CIB W070 conference, which is going to be held in Trondheim, Norway, on May 8–11 2023, in conjunction with the first planned face-to-face ISO/TC 267 Plenary Session since the COVID-19 pandemic hit the world back in 2020.

Literature shows that research on FM standards is nascent, whereas research on more technical standards of relevance to FM is more common. This is something that comes forward also in this issue. When we called for research on the role of standards within the built environment, we aimed to encourage researchers to study around the ISO standards that the Technical Committee ISO/TC 267 FM has developed in the recent years. We understood that this was a high target and expanded our quest so that it could include other regional or national standards.

When we called for research into the field, we emphasised that the maturity of standardisation in FM at a global level is rather novel. The first globally accepted definition of FM came in 2017 (ISOa, 2023). One of the recent developments in ISO's series for management system standards is the inclusion of an FM standard published in 2018 (ISOb, 2023; ISOc, 2023). For these reasons, we saw a need for research on the effect of these and other standards within the FM profession, organisations (private, public and voluntary), market and research. As such, we called for research that would highlight the symbiosis between research, practice and standardisation within the built environment. To be precise, this special issue aimed in its call for research “to gather experience with implementation and integration of FM standards, as well as document how previous research influenced the development of such standards. And through this, provide deeper understanding of how, and to what extent, research and standardisation drives and prevents innovations in FM profession and the way that buildings are planned, built and operated” (Facilities, 2023). To inspire researchers to take on research on this topic, we provided a list of potential themes in our call for research such as:

- the impact research has had on the development and updates of standards;
- different ways innovation, research and standards are intertwined;



- collaborations between researchers, practitioners, policymakers and others when developing standards;
- ways standards improved/hindered the performance of facilities, particularly the use phase of buildings; and
- the influence sustainability and/or digitalisations have had on standards within the built environment and particularly for buildings use phase.

The outcome of this special issue is a compilation of all the articles that deal with the topic of standards – national, regional and international standards. The first article published in this special issue is written by [Shaw *et al.* \(2022\)](#) who investigate standards for data management (ISO 19650 series, ISO 41000 series, etc.) and how information management (IM) can help practitioners reduce their environmental impact through a thematic analysis of nine practitioners' interviews. [Shaw *et al.* \(2022\)](#) find that systemic issues such as delayed involvement in projects and inability to influence designs are a greater barrier for IM than technical barriers such as software systems interoperability with building information models (BIM). The second article, by [Lai *et al.* \(2022\)](#), focuses on standards and policies for retro-commissioning and used a review of both literature and documents to find their answers. The documents search was conducted on the webpages of major standardisation organisations, such as the International Organisation for Standardisation (ISO), and national standardisation bodies in the USA, the UK, Germany and Canada. The outcome is a call for an international standard on the retro-commissioning of buildings and a call for policies ensuring the uptake of building retro-commissioning in practice. The third article by [Mogayedi *et al.* \(2022\)](#) focuses on innovative technologies impact on environmental sustainability in a South African context evaluating local energy building regulations (SANS 204) and found positive effects on the carbon footprints of commercial buildings. The fourth article by [Asworth *et al.* \(2022\)](#) focuses on building information modelling (BIM) and argues that practitioners need guidance on how to formulate information requirement (IR) in line with ISO 19650. Their work, which is based on document review, was conducted prior to ISO 19650-4 which provides guidance. As such, [Asworth *et al.*'s \(2022\)](#) work serves as introduction to BIM and as guidance for those unfamiliar with the concepts of organisation IR, asset IR (AIR) and project IR. The article by [Jensen *et al.* \(2023\)](#) represents a retrospective perspective on own participation in developing formal FM standards – both at a European and a global level – concurrently as they are researchers. Their aim is to increase the understanding of how researchers and practitioners collaborate with regard to the development of formal standards and some of the challenges involved. They call for real-time studies on the collaboration between researchers and practitioners in the context of standard development. Thereafter, the article by [Bjørberg and Temeljotov-Salaj \(2023\)](#) describes the development of a new standard for sustainable refurbishment and shed light on how a national standard (NS 3424) can influence and inform the development of a European standard (prEN 17680:2022). [Pedral Sampai *et al.* \(2023\)](#) investigate predominantly open standards (e.g. Industry Foundation Classes and Construction Operations Building Information Exchange) and rely on a systematic literature review to identify the ways in which digital technologies (BIM, IOT, AI and more) can impact FM in hospital building management. [Norang *et al.* \(2023\)](#) deal with the European Union's (EU) recent instrument facilitating climate neutrality in 2050 – the EU Taxonomy and Environmental, Social and Governance policies. They find, through document studies and interviews with industry actors, that practice is confused in how to implement these new policies and thus calls for future FM standards to include guidance in this regard. The final paper of our special issue by [Lok *et al.* \(2023\)](#) focuses on implementation of new FM

standards and review amongst other recent ISO documents. This article by Lok *et al.* (2023) represent this journal – *Facilities* – first viewpoint paper, a paper type that is looser in its structure than other research papers and allow a writing style having a voice resembling the one used by journalists and professional magazines.

For those interested in continuing to research the topic of evidence-based standards, we recommend reading our most resonate publication as well – Klungseth *et al.* (2023) – were we guest-editors of this special issue develop a framework for how to discuss and analyse standards.

Our mission of connecting engaged researchers and FM experts from standardisation bodies together is not completed with this special issue of *Facilities*. We will continue to strengthen valuable networks for future collaborations. But this special issue, the first one to deal with this topic, shares insights, evidence and suggestions for practical implications that illustrate a promising potential of the synergies between research and standardisation in FM.

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