

Empowering research for Sustainable Development Goals, ABC2: Architecture, Building, Construction, and Cities is a fundamental manifesto to address these pressing issues, fostering dialogue and knowledge exchange among researchers, practitioners, and policymakers. Exploring sustainable design, resilient infrastructure, advanced construction methods, and equitable urban development, ABC2 aims to empower the global community to create adaptive, inclusive, and sustainable environments. The ABC2 focus on cutting-edge research, technological advancements, and transformative strategies is essential for navigating the future of our cities and communities.

Editorial Article

## Bridging Inclusion, Health, and Safety in the Built Environment: From Frameworks to Lived Outcomes

Farzad Rahimian<sup>1\*</sup>, Ashraf M. Salama<sup>2</sup>

<sup>1\*</sup> School of Architecture, Building and Civil Engineering, Loughborough University, Loughborough, UK

<sup>2</sup> School of Architecture and Built Environment, Northumbria University, Newcastle upon Tyne, UK

DOI: <https://doi.org/10.66408/abc2.2026.82>

Correspondence: [f.rahimian@lboro.ac.uk](mailto:f.rahimian@lboro.ac.uk)

Copyright: © 2026 by the authors.

ABC2 is an open-access journal distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0). View this license's legal deed at <https://creativecommons.org/licenses/by/4.0/>



Received: 25/04/2026  
Revised: 15/05/2026  
Accepted: 20/05/2026  
Published: 27/05/2026

Volume: 2026  
Issue: 03  
Pages: I–VII

### Abstract

The built environment is being asked to do more than it ever has. Climate pressure, demographic change, technological churn, and rising public expectations are converging on the same buildings, the same streets, and the same professional curricula. This editorial frames the present issue of ABC2: Journal of Architecture, Building, Construction, and Cities (2026–03) within that widening remit. The five papers gathered here move across very different terrain. Two address inclusion and accessibility in public and commercial space. Two address the design and education stages where downstream value is set. One examines the organisational reality of bringing immersive technology into construction safety. Read on their own, each is a careful study of one corner of the field. Read together, they tell a story about what holds the field back. Inclusion is not a checklist. Health is not an add-on. Industrialisation is not just manufacturing. Safety technology is not just technology. Each paper, in its own register, makes the point that progress depends on bridging technical capability with the people, institutions, and rules around it. This editorial draws out three cross-cutting themes that emerge across the five contributions. The first treats inclusivity and accessibility as relational, governance-bound conditions rather than fixed design outcomes. The second concerns the embedding of health, lifecycle, and integrative thinking into the education and early design stages. The third concerns the institutional, regulatory, and organisational readiness that determines whether innovation reaches the people it is meant to serve. The settings are global, the methods are plural, and the conclusion is shared. Built environment progress depends on bridging the gap between frameworks and lived outcomes, not on invention alone. The issue advances ABC2's commitment to research that takes the social, technical, and institutional dimensions of the built environment seriously, and in equal measure.

**Keywords:** Inclusivity; Accessibility; Industrialised construction; Health and well-being; Architectural education; Immersive technologies; Construction safety; Sustainable Development Goals

### Highlights

- Frames inclusivity and accessibility as relational, governance-bound conditions rather than fixed design outcomes.
- Argues that health and lifecycle thinking must be built into the education and early design stages.
- Demonstrates that immersive and industrialised technologies require organisational readiness to deliver safer practice.

## Introduction: An Issue About Bridging

The built environment is rarely changed by a single idea. It is changed by what people in different rooms decide to do at roughly the same time. A planner adopts a new code. A school of architecture revises a curriculum. A contractor invests in a new piece of equipment. A regulator enforces a long-ignored standard. A community refuses to accept a public space that does not work for them. When these moves connect, progress is visible. When they do not, the most elegant design solution sits on a shelf, the most rigorous research paper goes uncited, and the people who pay the price are the ones least equipped to push back.

This issue of ABC2 is about that connection. The five papers brought together here do not share a single empirical setting, a single method, or even a single object of study. They span a conceptual analysis of inclusivity in urban public open spaces, a compliance audit of shopping malls in Nigeria, a global survey of architectural schools, a systematic review of lifecycle design for industrialised building products, and a factor analysis of immersive technology adoption on construction sites in Ghana. What they share is a refusal to treat their subject matter as a purely technical problem.

A second thread runs through the issue. Each paper points, in its own way, to the gap between intent and outcome. Inclusivity is widely endorsed and unevenly delivered. Accessibility is widely regulated and unevenly enforced. Health is widely valued and unevenly taught. Industrialised construction is widely promoted and narrowly designed. Immersive technology is widely available and slowly adopted. The papers do not just document these gaps. They explain them. The explanations point toward governance, education, regulation, and organisational capability rather than to any single technical fix. That is the editorial argument of this issue, drawn from the papers themselves.

This editorial article is organised around three cross-cutting themes that emerge from the five contributions. Section 2 treats inclusivity and accessibility as socio-spatial conditions. Section 3 addresses the embedding of health, lifecycle, and integrative thinking into design and education. Section 4 considers the organisational and regulatory readiness that determines whether innovation lands in practice. Section 5 looks ahead. The structure is deliberate. It treats the issue as a single conversation across five authors' teams rather than five separate items. This editorial article is a synthesis, not a summary.

International policy frameworks reinforce the conversation. The United Nations Sustainable Development Goals tie inclusion, health, infrastructure, and education into a single development logic (UN, 2015). The most relevant goals for this issue are sustainable cities and communities (SDG 11), good health and well-being (SDG 3), quality education (SDG 4), reduced inequalities (SDG 10), decent work and economic growth (SDG 8), and industry, innovation, and infrastructure (SDG 9). Critical scholarship has long argued that the built environment is a cultural, pedagogical, and societal practice rather than a technical one alone (Salama, 2015; 2019). Knowledge production, professional education, and social responsibility sit at the centre of that view. This issue sits within that lineage and extends it across new settings.

## Inclusivity and Accessibility as Socio-Spatial Conditions

Inclusion in the built environment is too often reduced to a checklist of physical features. A ramp here, a wider doorway there, a tactile strip at the kerb. The features matter, but they do not on their own produce inclusive space. Two contributions in this issue push back against the checklist reduction in complementary ways. One does it through conceptual structure. The other does it through empirical audit. Together they make a sharper point than either could alone.

Pansare et al. (2026) undertake a theoretical and conceptual investigation of inclusivity in urban public open spaces. The starting observation is that inclusivity is conceptually unsettled and practically fragmented. Existing scholarship treats access, publicness, spatial justice, and lived experience as

separate concerns, and existing assessment frameworks privilege physical form over the relational, perceptual, and behavioural processes that shape who actually uses a space and how. The study's contribution is a multidimensional conceptual model structured around four operational domains, namely physical, behavioural, perceptual, and functional, and four interrelated dimensions of inclusivity, namely accessibility, sense of place, conviviality, and resilience. Inclusivity is repositioned as a socio-spatial condition produced through the interaction of spatial form, social practice, symbolic meaning, and governance, rather than as a fixed or purely design-led outcome. The work extends ongoing debates on public space and lived experience (Salama and Patil, 2024) and engages directly with critical concerns about how assessment frameworks have privileged measurable form over the relational processes that determine real use.

Oluigbo et al. (2026) take a complementary empirical route into the same conceptual territory. Their study examines compliance with accessibility standards across fifteen Nigerian shopping malls, using observational checklists and a structured questionnaire. The findings document the gap between regulatory intent and built reality. Most malls provide basic access routes and entry points. Beyond that, the picture deteriorates. Ramps lack handrails. Signage rarely includes tactile or braille information. Accessible restrooms are inconsistent. Emergency egress arrangements often do not accommodate users with disabilities. The gap between Nigeria's Persons with Disabilities (Accessibility) Regulations 2023 and what is actually built is significant. The study reads the gap as a regulatory enforcement and stakeholder awareness problem, not just a design problem, and calls for stricter enforcement, heightened stakeholder awareness, and the integration of accessible design principles into architectural practice.

The two papers complete each other. Pansare et al. (2026) show that inclusivity needs a conceptual structure that respects its socio-spatial nature. Oluigbo et al. (2026) show that no conceptual structure will deliver inclusion in the absence of an enforcement infrastructure that holds practice to account. The sharper point follows from reading them together. Inclusivity cannot be operationalised through either pure theory or pure compliance audits. It requires both. A clear conceptual frame allows assessment to capture more than physical attributes. A functioning regulatory and governance frame ensures that what is captured is also built. Treating either side as sufficient is what produces the gap between policy ambition and lived reality that both papers, in their own way, expose.

## **Embedding Health, Lifecycle, and Integrative Thinking at the Design and Education Stages**

A second theme cuts across the issue. Downstream outcomes in the built environment are determined upstream. The decisions made at the design stage, and the dispositions formed in professional education, set the boundaries of what is possible later. Two papers engage this point directly, one looking at the formation of professionals, the other at the formation of products.

Patil et al. (2026) present the first systematic global analysis of how health and well-being are integrated into architectural education. The study examines 345 schools across 159 countries as part of the UIA Education Commission's comprehensive survey. The headline finding is that 90 schools, or 26.1%, explicitly integrate health and well-being into curricula, research programmes, or institutional missions. The authors read this as a critical threshold, suggesting a movement from isolated innovation to emerging norm. The study identifies five integration pathways, ranging from dedicated programmes and specialisations through research centres, design studio themes, cross-disciplinary collaborations, and specific courses. Regional analysis reveals striking disparities. Western Europe and Central/Eastern Europe lead with 33.3% integration rates. The Americas and Asia/Oceania follow at 22.2%. Africa lags at 16.7% with critical infrastructure gaps. The work positions health as an integrative lens connecting sustainability, equity, technology, and practice, and frames the 74% of schools showing no explicit integration as an indicator of incomplete transformation rather than as a static deficit. The contribution sits within broader calls for pedagogical innovation that bridges technical competence with critical

understanding (Burton and Salama, 2023; Salama, Burton and Patil, 2025; Patil et al., 2025a) and for the integration of social and ecological responsibility into the curriculum (Patil et al., 2025b).

Taheripour et al. (2026) carry a parallel argument into the technical domain. Their concern is the design of industrialised building products. The point of departure is that current research and practice have concentrated on Design for Manufacturing and Assembly (DfMA). DfMA is valuable, but it tends to limit the broader integration of industrialised products across the entire project lifecycle. The study uses a systematic literature review of WoS and Scopus publications from 2015 to 2025, followed by qualitative content analysis, to develop a comprehensive framework that categorises Design for X (DfX) considerations across the entire lifecycle of industrialised building projects, from design through manufacturing, assembly, transportation, on-site installation, and end-of-life. The framework is offered both as a foundation for future research and as a practical tool for evaluating the industrialisation potential of building products at the early design phase.

The shared logic between these two papers is hard to miss. Whether the object is a future architect or a wall panel, the early-stage frame determines the integrative potential of everything that follows. Treating manufacturing concerns as the whole of design produces narrow products that cannot adapt across the lifecycle. Treating health as an add-on to education produces narrow professionals who can build but cannot care. Both papers argue, in their own register, for expansion of the design lens at the moment when expansion still costs almost nothing. Late-stage retrofitting of either products or people is expensive and partial.

## **Technology, Organisational Readiness, and Safer Practice**

The third cross-cutting theme concerns the translation of innovation into practice. Technology in the AEC sector is often discussed as if its adoption were the natural consequence of its capability. The papers in this issue cut against that assumption. They show that the gap between capability and uptake is filled by something quite specific. Organisational readiness. Regulatory support. Professional capability. Without these, innovation stalls, and the people whose safety or accessibility it was meant to improve do not see the benefit.

Pittri et al. (2026) investigate the drivers of immersive technology adoption for health and safety management in the Ghanaian construction industry. The setting matters. Developing-country construction contexts are under-represented in the literature on digital safety, and the conditions of adoption differ in important ways from those in better-resourced settings. The study uses a two-phase methodology. A literature review and expert consultation identifies sixteen adoption drivers. A questionnaire survey of 204 construction professionals, selected through purposive and snowball sampling, generates the quantitative data. Factor analysis reveals three underlying dimensions shaping adoption decisions, namely Collaborative Safety Enhancement and Organisational Readiness, Technological Performance and Safety Management Capabilities, and Implementation Support and Technological Advancement. Fuzzy synthetic evaluation then assesses the criticality of each. Technological Performance and Safety Management Capabilities emerges as the most influential category, with an index of 4.17. Implementation Support and Technological Advancement follows at 3.83. Collaborative Safety Enhancement and Organisational Readiness comes in at 3.78. The study's contribution is empirical evidence that immersive technology adoption in resource-constrained settings is not a technology problem in isolation. It is a question of organisational readiness, implementation support, and collaborative capability working in concert with technical performance.

The Taheripour et al. (2026) contribution, already discussed above, also speaks to this theme. Industrialised building products carry significant safety, productivity, and lifecycle implications. Their adoption depends on the same kind of organisational and institutional alignment that immersive technology adoption requires. A DfX framework only delivers value if firms have the systems, skills, and incentives to use it. The same insight runs through the broader literature on digital transformation in the

AEC sector, where uneven adoption continues to limit the returns on technological investment (Najafi and Rahimian, 2025; Najafi, Rahimian and Akanmu, 2025).

A consistent insight emerges across both studies and the wider conversation they sit in. Technical innovation in the construction sector is necessary but not sufficient. The presence of a tool is not the same as its use. The capability of a system is not the same as its impact. The bridge from the first to the second is built from organisational readiness, regulatory support, professional capability, and, often, from patient implementation work that does not generate citations. That bridge is where the value is realised, or not.

## Looking Ahead: Research Pathways and ABC2 Commitment

Read together, the five papers in this issue make a coherent argument about the built environment. Progress is the bridging of technical innovation with institutional, regulatory, organisational, and pedagogical capability. Inclusivity needs both conceptual clarity and enforcement infrastructure. Health and lifecycle thinking need to be embedded early, in curricula and in design briefs. Safety technology needs organisational readiness to land. None of these depend on a single intervention, and none of them belong to a single profession.

Strong alignment can be observed with Sustainable Development Goals addressing good health and well-being (SDG 3), quality education (SDG 4), decent work and economic growth (SDG 8), reduced inequalities (SDG 10), sustainable cities and communities (SDG 11), and industry, innovation, and infrastructure (SDG 9). The issue also reinforces the limitations of treating these goals as discrete and siloed categories. Progress in one is contingent on progress in others. Accessibility in malls depends on regulatory enforcement. Inclusivity in public spaces depends on governance. Curricular reform depends on institutional commitment. Immersive safety technology depends on organisational learning. The papers in this issue make these dependencies visible.

For researchers, the issue points toward integrative methodologies that combine technical rigour with social, institutional, and pedagogical awareness. For practitioners, the contributions offer concrete tools, frameworks, and audits that support better decision-making at design, education, and project stages. For policymakers, the findings emphasise the need for governance and regulatory frameworks that can deliver on the inclusion, health, and safety commitments already on paper. The implementation gap is not closed by adopting more frameworks. It is closed by bringing into alignment the actors and capabilities that turn frameworks into outcomes.

This issue reaffirms ABC2's commitment to advancing critical and interdisciplinary scholarship at the intersection of architecture, building, construction, and cities. The journal continues to position sustainability, inclusion, health, and safety not as abstract ideals but as practices, decisions, and responsibilities embedded within the production and governance of the built environment. We invite contributions that further explore the convergences set out in this issue, particularly work that examines how regulation, education, and organisational practice co-evolve with technical innovation, and work that takes seriously the implementation distance between policy frameworks and lived outcomes. The knowledge spaces cultivated within ABC2 remain spaces of possibilities and anticipation of growth, evolution, and development. We look forward to continuing this journey with the international research community.

### Acknowledgements

The chief editors would like to thank the authors and reviewers of the articles in this issue. Our thanks extend to the international advisory board members, the managing editor, and assistant editors.

### Funding

No funding was received to develop this editorial article.

### Ethical Approval Declaration

Not Applicable.

### Data Availability Statement

Not Applicable.

### Conflicts of Interest

The authors declare no conflict of interest.

## References

- Burton, L. O., & Salama, A. M. (2023). Sustainable Development Goals and the future of architectural education – Cultivating SDGs-centred architectural pedagogies. *Archnet-IJAR: International Journal of Architectural Research*, 17(3), 421–442. <https://doi.org/10.1108/ARCH-08-2023-0201>
- Najafi, M., & Rahimian, F. (2025). Editorial: Harnessing digital innovation for smart and sustainable built environments. *Smart and Sustainable Built Environment*, 14(5), 1333–1338. <https://doi.org/10.1108/SASBE-09-2025-569>
- Najafi, M., Rahimian, F., & Akanmu, A. A. (2025). Editorial: Human-centric innovation in the built environment. *Smart and Sustainable Built Environment*, 14(4), 883–888. <https://doi.org/10.1108/SASBE-06-2025-567>
- Oluigbo, C. U., Okonta, E. D., Osamor, S. N., & Ndubuisi, C. B. (2026). User accessibility in shopping malls: Towards compliance and inclusive design. *ABC2: Journal of Architecture, Building, Construction, and Cities*, 2026(03), 35–59. <https://doi.org/10.66408/abc2.2026.36>
- Pansare, P., Salama, A. M., & McIntyre, L. (2026). An operational assessment index for inclusivity in urban public open spaces. *ABC2: Journal of Architecture, Building, Construction, and Cities*, 2026(03), 15–34. <https://doi.org/10.66408/abc2.2026.42>
- Patil, M. P., Mahgoub, Y., Salama, A. M., Tahoun, Z., Johnston, L., Hamza, N., & Al-Oufy, A. (2025a). Cultivating sustainable architecture and built environments through cross-cultural education. *Smart and Sustainable Built Environment*. Advance online publication. <https://doi.org/10.1108/SASBE-03-2025-0108>
- Patil, M. P., Butt, A. N., Rigoni, C., & Salama, A. M. (2025b). Integrating circular economy principles into architectural design pedagogy. *Sustainability*, 17(20), Article 9330. <https://doi.org/10.3390/su17209330>
- Patil, M. P., Salama, A. M., Harrington, S., & Hamza, N. (2026). Health and well-being in architectural education: Evidence from a global survey I. *ABC2: Journal of Architecture, Building, Construction, and Cities*, 2026(03), 60–85. <https://doi.org/10.66408/abc2.2026.40>
- Pittri, H., Atibila, D. W., Amartey, P. A., Amoako, V., Gasu, J. S., & Agyekum, K. (2026). Evaluating the drivers of immersive technologies implementation for health and safety management in the construction industry. *ABC2: Journal of Architecture, Building, Construction, and Cities*, 2026(03), 86–110. <https://doi.org/10.66408/abc2.2026.41>
- Salama, A. M. (2015). *Spatial design education: New directions for pedagogy in architecture and beyond*. Routledge.
- Salama, A. M. (2019). Methodological research in architecture and allied disciplines: Philosophical positions, frames of reference, and spheres of inquiry. *Archnet-IJAR: International Journal of Architectural Research*, 13(1), 8–24. <https://doi.org/10.1108/ARCH-01-2019-0012>

- Salama, A. M., & Patil, M. P. (2024). "YouWalk-UOS" – Technology-enabled and user-centred assessment of urban open spaces. *Open House International*, 49(5), 1015–1029. <https://doi.org/10.1108/OHI-01-2024-0021>
- Salama, A. M., Burton, L. O., & Patil, M. (2025). ADAPT2SDG – A decolonised architectural pedagogical typology. *Journal of Architecture*, 30(1), 102–135. <https://doi.org/10.1080/13602365.2025.2556946>
- Taheripour, S., Bril El-Haouzi, H., Sheikhhoshkar, M., & Azizi, M. (2026). Toward a lifecycle-oriented Design for X (DfX): A framework for industrialized building products. *ABC2: Journal of Architecture, Building, Construction, and Cities*, 2026(03), 01–14. <https://doi.org/10.66408/abc2.2026.38>
- United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. <https://sdgs.un.org/2030agenda>

---

#### **Disclaimer/Publisher's Note**

The statements, opinions, and data contained in all publications are solely those of the individual author(s) and contributor(s) and do not reflect the views of the Architecture, Buildings, Construction and Cities (ABC2) Journal and/or its editor(s). ABC2 Journal and/or its editor(s) disclaim any responsibility for any injury to people or property resulting from any ideas, methods, instructions, or products referred to in the content.