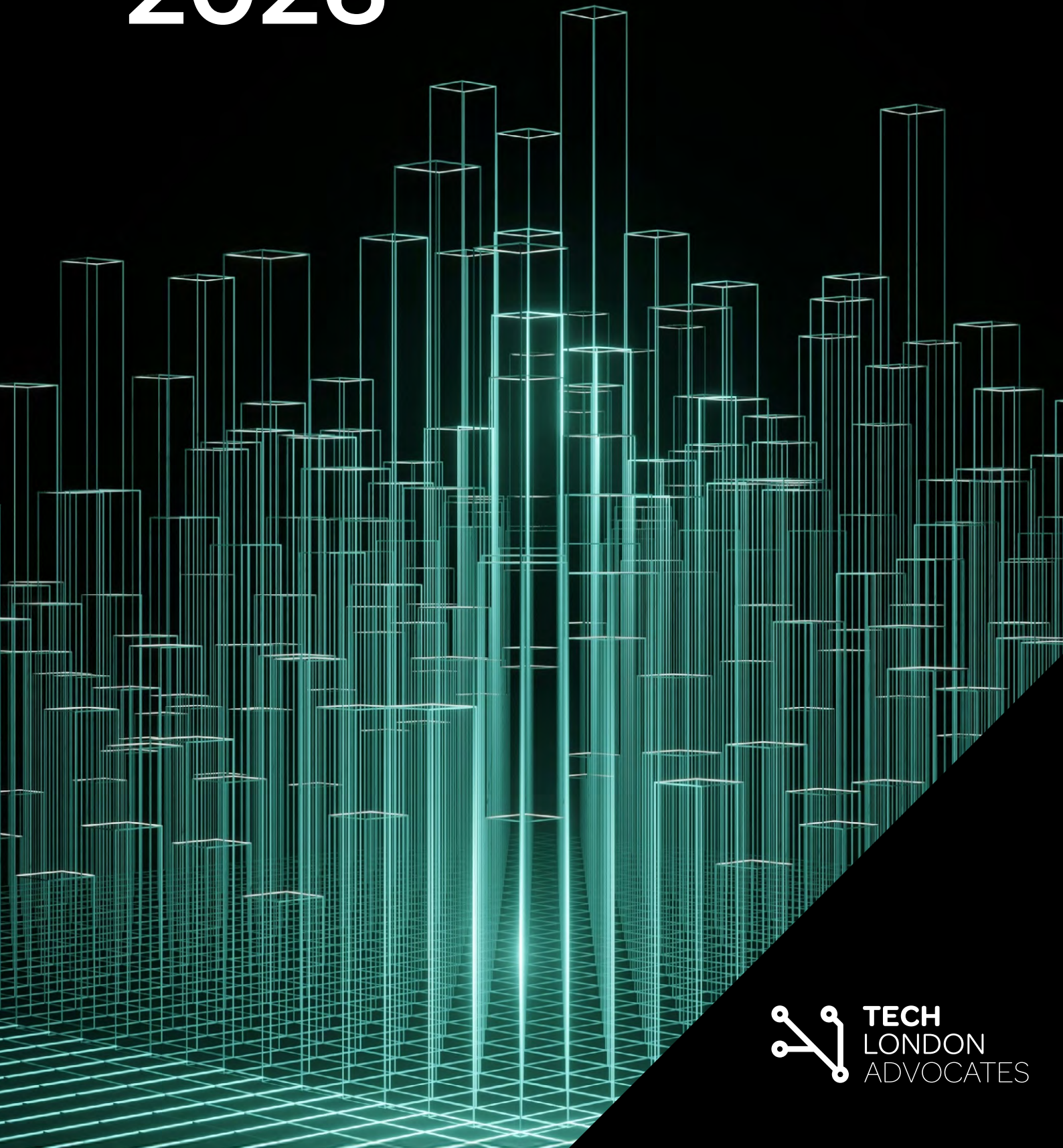




THE DIGITAL PLACE
PLAYBOOK
2026





CONTENTS

i.	The Digital Place Playbook	4
ii.	Foreword: The Digital Place Playbook 2026	7
1	The Enterprise Architecture of Place	8
2	Digital Placemaking: Using data to create sustainable cities	10
3	London's global competitiveness depends on the infrastructure beneath it	12
4	Digital planning in England: the state of the market in 2026	14
5	Unlocking Spatial Intelligence: Strategic Use Cases for Masterplan Digital Twins	16
6	De-risking development through use of spatial analysis	19
7	Digital Construction: The Foundation for Smarter Places	21
8	Energy accounting: the missing layer in sustainable design and reporting	23
9	Tenant experience starts at the brief not the app store	25
10	Wayfinding: "May you walk in beauty"	27
11	Valuing the Digital Asset	29
12	What Digital Placemaking demands of the Built Environment workforce now and in the future	31



The Digital Place Playbook

International law firm Spencer West is delighted to work together with Tech London Advocates/Global Tech Advocates on the launch of the Digital Place Playbook 2026.

Across the built environment, there is a profound shift in the full lifecycle – how places are conceptualised, designed, delivered and operated. Technology has moved from an afterthought to an element intrinsic to the places we create. It is central to shaping everything we hold dear – from sustainability and connectivity, to how a place performs and how it is experienced.

It is apparent that the opportunities are practically endless. By supporting digital innovation with the expertise of the many stakeholders involved in built environments, we can come together to create places that respond deeply to the needs of the communities they serve. Clearly, as artificial intelligence, data and digital infrastructure continue to evolve, the projects and organisations that embed these capabilities strategically from the outset will be best positioned to unlock long-term value.

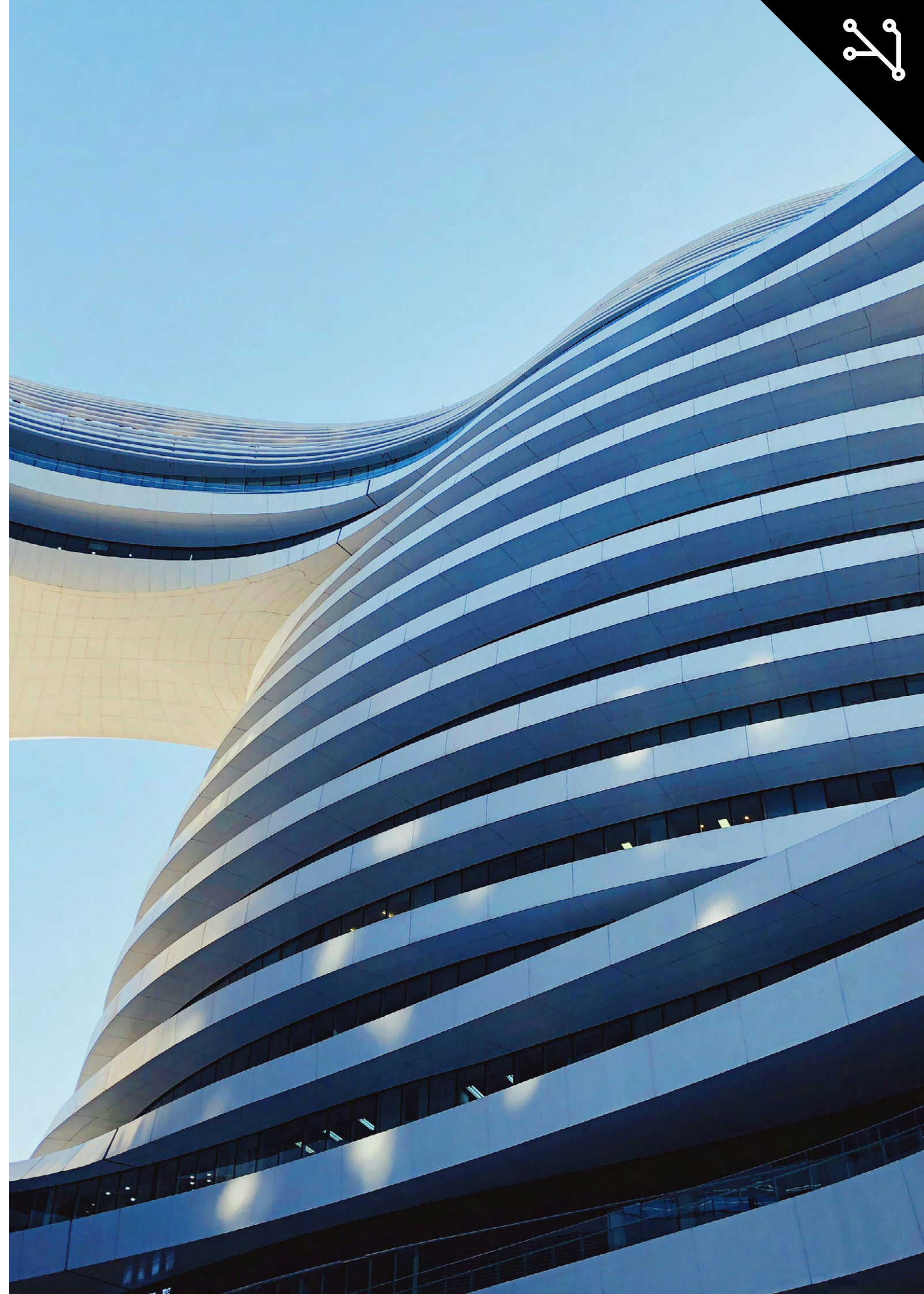
What makes this Playbook particularly valuable is the way it canvasses the views and perspectives of key parties involved in the future of this industry. The contributors examine the role of technology, offering practical insight into how digital thinking can achieve great outcomes through every stage of the place lifecycle.

At Spencer West, we work with innovative businesses, investors and entrepreneurs across the technology, real estate and infrastructure sectors. We see first-hand the pace of change and the opportunities that emerge when different disciplines collaborate around a shared vision.

We hope that the ideas, experiences and expertise captured in this Playbook inspire further discussion and contribute to the development of smarter, better-connected and more sustainable places for the future.

- **Simeon Spencer**

Senior Partner – Spencer West

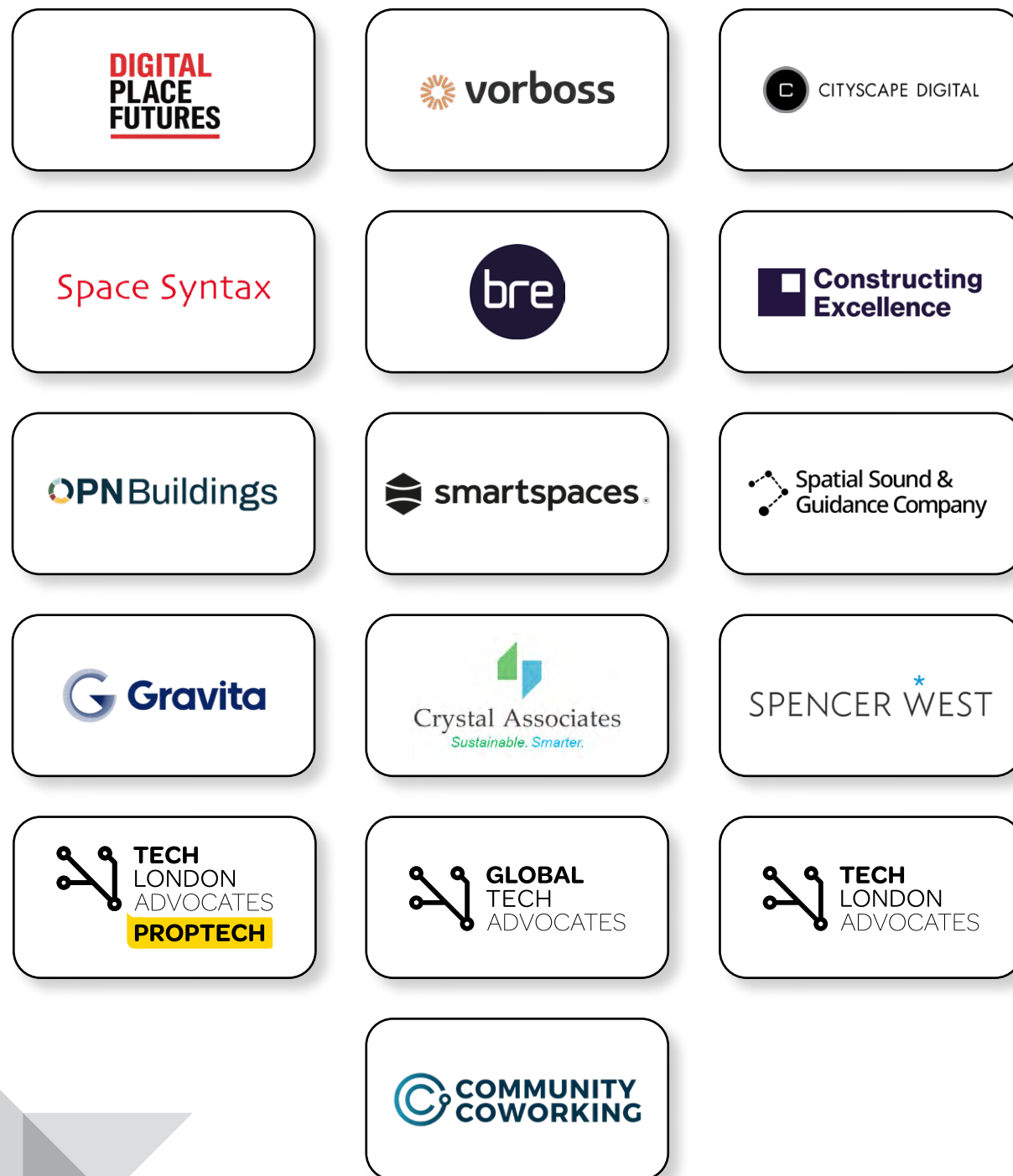




Foreword: The Digital Place Playbook 2026

By **Russ Shaw CBE**, Founder of Tech London Advocates & Global Tech Advocates

BROUGHT TO YOU BY



It is a privilege to support Tech London Advocates PropTech and introduce the Digital Place Playbook 2026.

In 2016, the World Economic Forum heralded the Fourth Industrial Revolution, the era of the 'cyber-physical'. A decade on, that transition has accelerated beyond recognition. Rapid digitisation, automation, and, of course, AI, are actively reshaping every facet of our built environment. Yet, a persistent disconnect remains. Too many of our neighbourhood plans and schemes are still designed without embedding the digital infrastructure required to underpin how future generations will live, work, and play.

This playbook tackles that challenge head-on. By taking a strategic, enterprise-architecture view and mapping technology solutions directly across the RIBA Plan of Work, our contributors bridge the gap between physical real estate and digital innovation. From low-carbon design and essential digital infrastructure to the use of geospatial data and analytics and technology-enabled construction methods, this anthology provides an essential roadmap for the entire property lifecycle.

Unlocking the full potential of digital placemaking demands multi-disciplinary collaboration. As our physical environments become increasingly instrumented, developers, planners, and local authorities must take collective responsibility to build connected, sustainable, and inclusive spaces accessible to all. Crucially, we must equip our workforce with the skills needed to lead this transformation and properly value digital assets alongside physical real estate.

Global Tech Advocates exists to champion entrepreneurs, academics, and corporate innovators on the global stage, and this playbook reflects our ongoing ambition to position the UK as the premier global hub for digital innovation. I want to express my gratitude to TLA PropTech, Gravita, and Spencer West for assembling such a brilliant group of leading thinkers.

I hope this serves as a lasting reference for the industry, and I look forward to seeing these ideas shape the places of tomorrow.



THE ENTERPRISE ARCHITECTURE OF PLACE

By **Linda Chandler**, CoLead TLA PropTech/Digital Place Futures

As a technologist working across real estate and smart cities, one pattern is clear: while physical architecture follows a rigorous design framework, the digital layer is far too often treated as a late-stage bolt-on.

In the era of artificial intelligence, this reactive approach is no longer viable. Technology and data must be fundamentally threaded through the entire property lifecycle—from strategic outcomes to long-term operations.

THE FRAGMENTATION OF THE DIGITAL ASSET

This integration challenge sits at the heart of what the *Digital Place Playbook* seeks to address: celebrating excellence and future-thinking across every stage of development in a holistic way. Yet, built environment professionals remain tightly focused on their specific disciplines. They rarely have the capacity or cross-domain visibility to explore what is happening across other sectors, asset classes or RIBA lifecycle stages.

The consequence of this is a landscape of disconnected solutions and stranded digital assets. Information becomes non-interoperable at a practical level—often suppressed due to fears over data sharing, legal liability or misplaced concerns around lost commercial monetisation opportunities.

BRIDGING TECH, DATA AND ORGANISATIONAL ROLES

In this new era of AI—we must get a few fundamental concepts straight. Firstly, we must understand the distinct difference between digital technology and data.

In the early days of tech, our focus was hardware: boxes, wires, servers, networks and PCs. Over the past 30 years, a separate discipline around data has emerged, generating an acronym soup of leadership roles like Chief Data Officer and Data Scientist. (For a deeper dive into this evolution, see *The Chief Data Officer's Playbook* (Carruthers & Jackson)) While non-specialists do not need to master every job title, these distinctions matter when facing off to the market. They define who needs to talk to whom across complex technology partner ecosystems.

LOOKING BEYOND THE PICTURE ON THE BOX

The second shift we must make is understanding the concept of architecture in technology—specifically, the role of the *Enterprise Architect*.

When master-planners, developers or local authorities outline a new scheme or destination, they excel at painting the beautiful picture on the front of the jigsaw puzzle box. They wax lyrical about a future place full of innovation, sustainable buildings, vibrant public realm and happy communities.

From a technology perspective, however, that vision is usually where the plan ends. Stakeholders can articulate high-level commercial and operational benefits, but they rarely know what individual technology 'jigsaw pieces' are required, let alone how to connect them to bring the picture to life.

These jigsaw pieces represent the 'genres' of place-based technology. Navigating this ecosystem is inherently complex. How you assemble the technology layer, manage change and navigate organisational barriers to deliver strategic business objectives falls squarely within the domain of the Enterprise Architect. (For a great read on an EA see *The Survivor's Guide to Enterprise Architecture* (Gray, Sykes & Homan)).

WHY WE NEED AN ENTERPRISE ARCHITECT OF PLACE

The concept is so important, I would argue that it requires a dedicated function: the Enterprise Architect of Place.

Currently, digital transformation is treated as an orthogonal function within organisations. At place-scale developments, a key role within the scheme is the Enterprise Architect, whose sole purpose is to stitch together technology, data, and core business strategy in service of place-based strategic outcomes.

If you look at RIBA Stage 0 (Strategic Definition), there is currently no formal strategic technology role embedded in the standard framework. That architectural thread is missing from the start. What we need is a function holding the digital line across all RIBA stages—weaving together a complex technology and data eco-system aligned to strategic objectives. An Enterprise Architect of Place function preserves institutional memory across masterplans that can take 10 to 20 years to reach full fruition. Having a digital, strategic 'hand on the tiller' ensures we can reliably technology-enable and steer towards the beautiful picture shown on the front of the box.





DIGITAL PLACEMAKING: USING DATA TO CREATE SUSTAINABLE CITIES

By **Julie Alexander**, Senior Executive Future City Delivery

STOP MODELLING THE CITY. START TESTING IT

Digital placemaking should be less about producing ever more sophisticated models and more about asking better questions of the city, where the answers are informed by the known impacts of a warming climate and resource depleted planet.

What happens if a new neighbourhood is designed around shade rather than parking? What if materials are selected for their second life before the first building is completed? What if biodiversity, flood risk and heat are treated as design constraints from day one rather than environmental considerations added at the end? Digital tools give cities a much better way to explore the answers.

The urgency is clear. Buildings and construction account for around 37% of global CO₂ emissions and nearly 50% of global material extraction. [UNEP](#) The opportunity is to use digital placemaking to change what gets designed, funded and built in response to these challenges.

BUILD THE CITY TWICE

The first version of a major development should exist digitally before it exists physically.

Digital twins can allow development teams to test how buildings affect urban

heat, where shade falls at different times of day, how people move through a neighbourhood, where floodwater accumulates and how much energy an area could consume. Singapore is already developing a Digital Urban Climate Twin to test heat-mitigation strategies and identify urban hotspots and opportunities for greenery. [Urban Redevelopment Authority, Singapore](#)

Continuous testing of the model allows us to ask not whether a proposal meets today's requirements, but whether it still performs under tomorrow's climate.

DESIGN THE SECOND LIFE FIRST

Circularity becomes much more powerful when it starts before construction.

Imagine every significant building entering the planning system with a digital material passport: what it contains, where those materials came from, how long they are expected to last and what could happen to them when the building changes. That information could influence procurement, design, maintenance and eventually demolition.

The building then becomes a material bank rather than a future waste stream. The Ellen MacArthur Foundation estimates that circular approaches could reduce CO₂ emissions from building materials by 38% in 2050. [Ellen MacArthur Foundation](#)

This is where digital placemaking can move from mapping places to managing their resources.

MAKE NATURE PART OF THE BRIEF

Nature should not be something a development tries to 'protect' after the masterplan has been drawn. It should help determine the masterplan.

By combining satellite imagery, ecological surveys, tree data, drainage models and climate projections, an otherwise unrecognisable green corridor becomes an attractive landscape feature, a critical ingredient of a connected system for cooling, water management, habitat and public space.

UN-Habitat recommends integrating green infrastructure, urban forests, wetlands and green corridors into urban planning to strengthen resilience and biodiversity. [UN-Habitat](#)

To create resilience, we must stop treating nature as a constraint on development and start using it to shape better places.

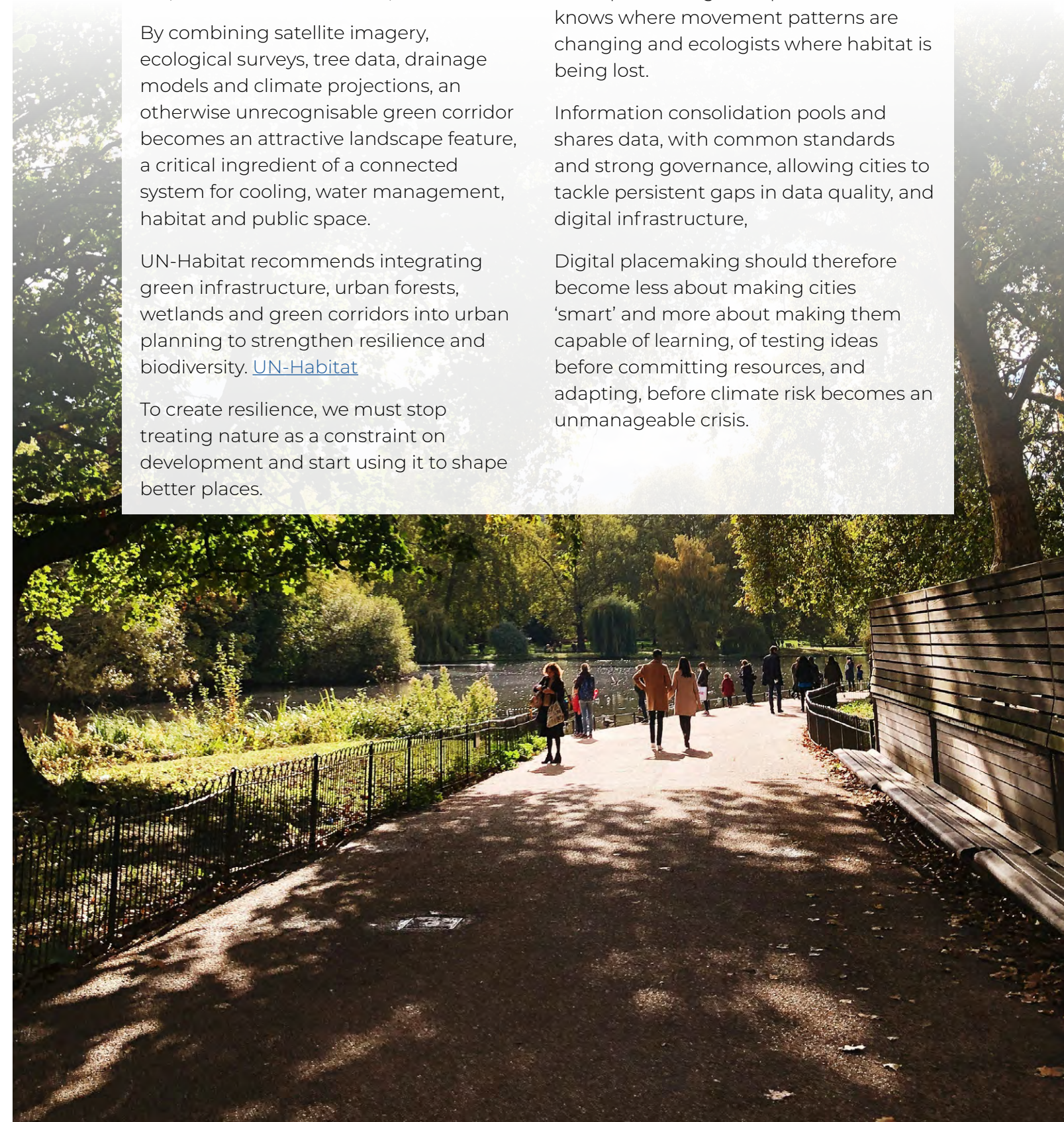
TURN THE CITY INTO A LEARNING SYSTEM

The most valuable digital platform may ultimately be the one nobody notices.

It is the citizens that tells a council which streets are becoming dangerously hot, a developer that knows which buildings are underperforming, transport teams who knows where movement patterns are changing and ecologists where habitat is being lost.

Information consolidation pools and shares data, with common standards and strong governance, allowing cities to tackle persistent gaps in data quality, and digital infrastructure,

Digital placemaking should therefore become less about making cities 'smart' and more about making them capable of learning, of testing ideas before committing resources, and adapting, before climate risk becomes an unmanageable crisis.





LONDON'S GLOBAL COMPETITIVENESS DEPENDS ON THE INFRASTRUCTURE BENEATH IT

By **Margaret Wajnkaim**, Content & Social Media Marketing Manager, Vorboss

London is undoubtedly, one of the world's greatest business capitals. It's often where global companies, fast-growing scale-ups and ambitious founders come to build.

That pull is driving demand for new office space. In 2025, 7.1 million sq ft of office space was completed across central London, [up 8%](#) on the previous year and the third-highest annual total recorded by Deloitte in 30 years.

These projects are part of what keeps London attractive, creating the infrastructure growing businesses need and helping bring investment in the UK.

CONNECTIVITY NEEDS TO BE PART OF THE INFRASTRUCTURE VISION FROM THE START

The right infrastructure needs to be resilient, flexible and built for growing data demand well into the future.

The problem is that connectivity can still be treated as a technology decision rather than part of the wider infrastructure plan. If it enters the conversation too late, important choices about routes, access and resilience may already be fixed.

Bringing connectivity into the conversation at the beginning of a project gives developers and landlords more options and avoids costly changes later on. It enables buildings to be designed around long-term capacity, helping them keep operating if connectivity is disrupted and reducing the risk of costly disruption and reputational damage.

100GBPS IS THE NEW STANDARD

High-growth businesses do not expand in predictable steps, so we need to overplan capacity when it comes to digital infrastructure. As teams grow and operations rely more heavily on AI and cloud services, their expectations of commercial real estate are changing. They need enough capacity from the start and the flexibility to upgrade without major disruption.

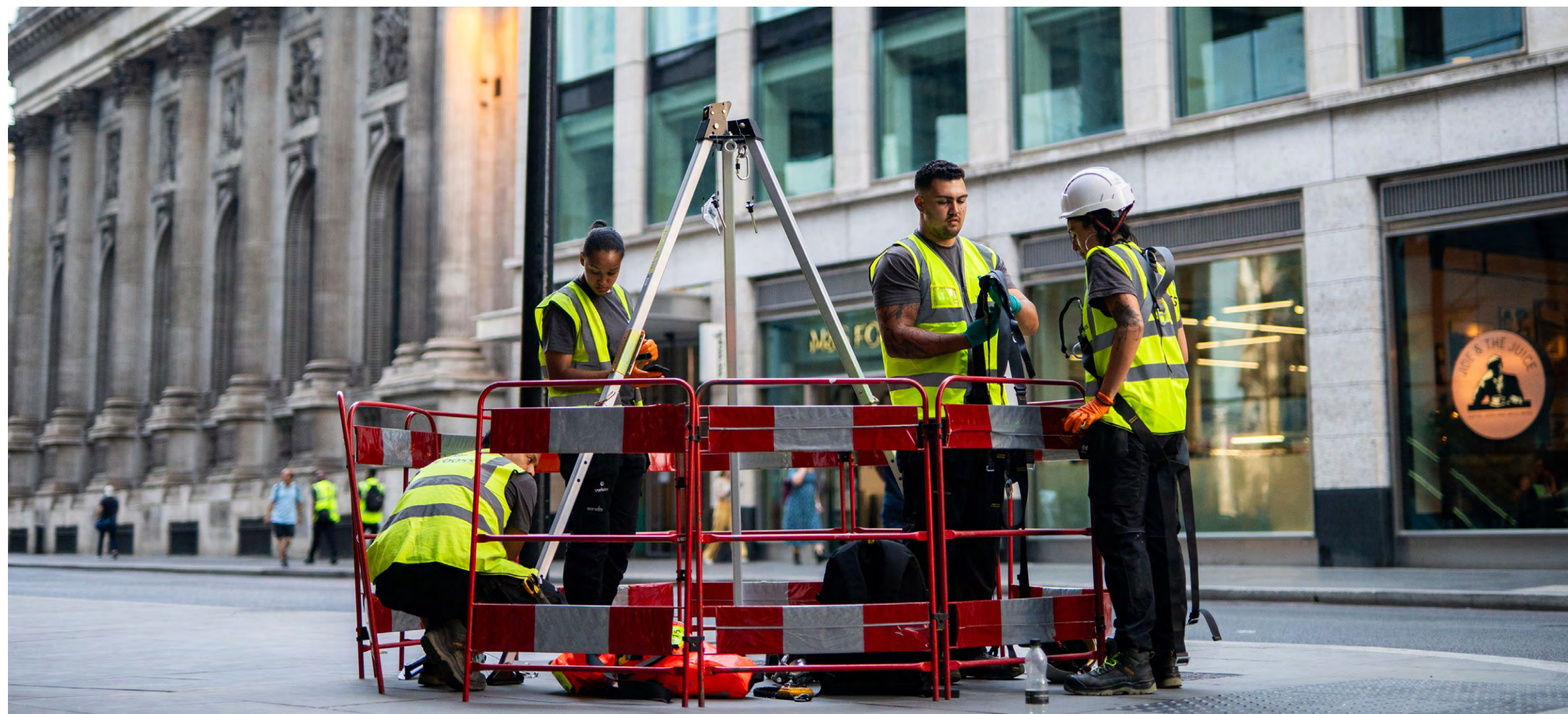
To attract high-growth, innovation-led companies that keep London booming – every building should be 100Gbps enabled. The aim is not to predict every new technology but rather to give businesses the freedom to scale, experiment and adopt new ways of working without constraint.

BUILD FOR FUTURE DEMAND

London's position cannot be taken for granted. Global businesses will choose cities that enable smooth scaling if we can't keep up.

For London to remain their home, create new job opportunities, and fuel investment, its buildings must be designed for where those businesses are going.

That means planning connectivity early, building with plenty of room to grow and treating digital infrastructure as a foundation of economic growth.





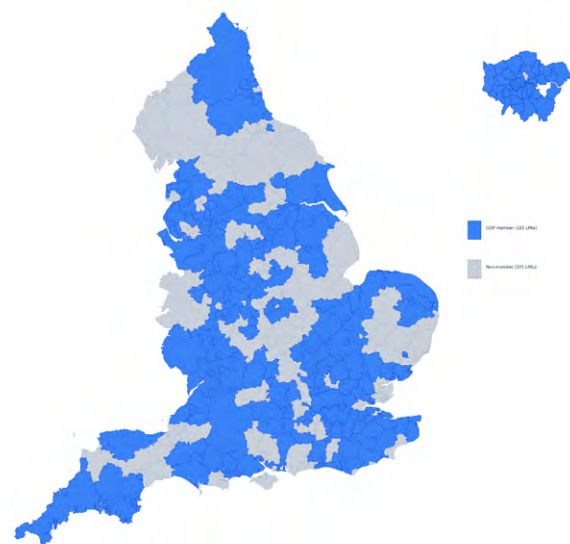
DIGITAL PLANNING IN ENGLAND: THE STATE OF THE MARKET IN 2026

By **Peter Kemp**, Digital Planning Transformation Leader

Digital planning in England has moved from pilots to infrastructure. The market now has national data platforms, statutory data-sharing duties (well nearly), AI in live use across councils (well nearly) and a growing private layer building on top. What it still lacks is a settled answer on who governs land data and that is where the next value sits.

THE PUBLIC DATA LAYER IS REAL

[Planning.data.gov.uk](https://planning.data.gov.uk) is now the national platform for standardised planning data. Through the Digital Planning Improvement Fund, [171 local planning authorities](#) more than a third of England's councils have committed to publishing conservation areas, listed buildings, tree preservation orders and Article 4 directions to it, each backed by £50,000.



ODP Member Map

The [PropTech Innovation Fund](#) has run six rounds since 2021, seeding tools for plan-making, engagement and land assessment. In London, the [Planning London Datahub](#) and London [DataMap](#) already give boroughs and developers a shared, live view of applications and constraints across the capital, and gives the insight into what will shortly be available nationally.

AI HAS MOVED INTO PRODUCTION

[Extract](#), built by MHCLG and the Incubator for AI, is now free to every council in England. It converts documents that took officers up to two hours to process into structured data in around two minutes; 50 authorities are already using it and over 1,000 documents were processed in its first weeks. Government has tied it directly to the [1.5 million homes target](#). For the cynical amongst us, there is a view that these are fixing problems that don't really exist, but my personal view is that this helps us move forward one step at a time.

The same pattern is visible in land records. HM Land Registry's AI-assisted local land charges migration let Newham [complete in four weeks with four people](#) what was scoped at 20 people over three months.

YET THE SYSTEM IS STILL SLOW

Digitisation has not yet shifted the headline numbers. In the year to March 2026 authorities decided [298,100](#)

[applications](#), down 3% year on year. Only [19% of major applications](#) were decided within the statutory 13 weeks; it is in this 81% figure that much of the opportunity for the impact of digitalisation lays..

The [Planning and Infrastructure Act 2025](#) targets committees and process. But the evidence base each application depends on ownership, options, ground, utilities, values is land data, and it remains fragmented across parties with no shared governance.

THE VALUE IS QUANTIFIED, AND THE PRECEDENT EXISTS

The Geospatial Commission values the UK geospatial sector at [over £6 billion](#) a year across 2,600 companies. UK PropTech raised [£230.4 million](#) in equity in 2025, up from £192.4 million the year before.

The clearest proof of what shared land data governance is worth sits underground. The National Underground Asset Register was put on a [statutory footing by the Data \(Use and Access\) Act 2025](#), obliging around 600 asset owners to share data. Accidental strikes cost the economy about £2.4 billion a year; government projects £400 million a year in efficiency gains from the register.

WHAT IS EMERGING ABOVE GROUND

The market is starting to fill the governance gap. The Open Data Institute's [data trust model](#) independent stewardship under agreed rules has been shown in pilots to [reconcile competing interests](#), and researchers have adapted it into [spatial data trusts](#).

I am applying that model in developing a land data trust: an independent vehicle through which landowners, local authorities, developers and communities pool site data under shared rules, retain control, and take a share of the value when it is used. It sits alongside [Future Builds](#) APP, which aggregates national planning application data to unlock the true value, helping communities to engage in the planning system to deliver communities that meet their needs.

The direction of travel is clear. Planning data has become public infrastructure. Land data is next and the organisations that steward it well at Concept Design will hold the most predictable pipelines in the market.

THE NEXT BIG THINGZ...

It would be wrong of me not take this opportunity to give a shout out to the companies I believe will have the biggest impact in the market over the next year:

Planda Portal and UK Planning Gateway – both established to take on the challenge of the monopoly of submission systems for regulatory services – both finding new and innovative ways to make the user experience better and both live.

Xylo – as a business process platform live in Local Authorities across the UK working as a complementary resource

Landtech – reinventing itself for the next generation of digital innovation in planning – so watch this space.



UNLOCKING SPATIAL INTELLIGENCE: STRATEGIC USE CASES FOR MASTERPLAN DIGITAL TWINS

By **Daniel Harper**, Chairman, Cityscape Digital

The Digital Place Playbook enables tech and property professionals to collaborate effectively in creating new places. Computer modelling allows both groups to experience the asset firsthand in a clear, accessible medium—a critical capability during pre-construction design. Post-construction, the BIM model generated during build can be imported into game engines integrated with Data Digital Twins. This paves the way for facility and logistics applications as well as customer-facing, metaverse-style solutions.

DIGITAL PLACE BUSINESS PLAN

At the business planning stage, alongside establishing a standard business plan with financial modelling, a visioning exercise powered by rapid 3D prototyping within a game engine allows technology advisers and investors to clearly envisage the future asset. By visualising the post-construction digital technology infrastructure and planned software applications early on, the project team can effectively demonstrate long-term commercial value, clarify strategic digital aspirations, and secure early investor buy-in before significant capital expenditure.

DIGITAL PLACE CONCEPT AND SCENARIO TESTING

To create seamless user experiences, the platform models the interplay between

digital services and physical spaces before on-site implementation. Through interactive workshops and visual tools, teams can validate and troubleshoot operational scenarios:

- **Pedestrian & Transport Flow:** Testing street-level proposals to evaluate traffic connectivity, public transport integration, and pedestrian footfall.
- **Phasing & Wayfinding:** Visualising construction timelines, temporary site works, landscaping, and signage to ensure smooth navigation and timely site openings.
- **Arts & Commercial Strategy:** Mapping out branding assets, digital screens, and cultural installations directly within the urban context.
- **Journey Mapping:** Tracking user pathways from car parks to office receptions to identify potential friction points.
- **Smart Logistics:** Simulating parking and parcel delivery workflows to prevent site congestion and streamline operations.
- **Tenant & Visitor Orientation:** Generating guided video collateral and self-serve tools to reduce confusion and boost overall satisfaction.

DIGITAL PLACE DESIGN AND SIMULATION

The platform bridges physical and virtual environments on-site via Augmented Reality (AR) and Head-Mounted Displays (HMDs). This supports immersive storytelling, interactive gaming, and personalised marketing—enhancing visitor loyalty and positioning the project as a cutting-edge destination.

COMMERCIAL AND OPERATIONAL DIGITAL TWIN

Upon practical completion, the model becomes a dual-purpose operational and commercial digital twin supporting place data, consumer interfacing, and revenue generation.

OPERATIONAL DIGITAL TWIN

Streamlining the model for continuous operation enables advanced applications like Digital Facilities Management and predictive maintenance. Bi-directional APIs (MQTT, REST APIs, BACnet) connect the spatial model to Building Management Systems (BMS) and IoT networks to visualise live telemetry.

Combining live and historical sensor, traffic, and user data supports:

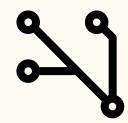
- **Crowd & Safety Management:** Running real-time crowd simulations and time-of-use analyses to mitigate hazards and optimise facility management.
- **Predictive Asset Optimisation:** Equipping operational teams with actionable insights to anticipate issues and run the estate efficiently.

COMMERCIAL DIGITAL TWIN

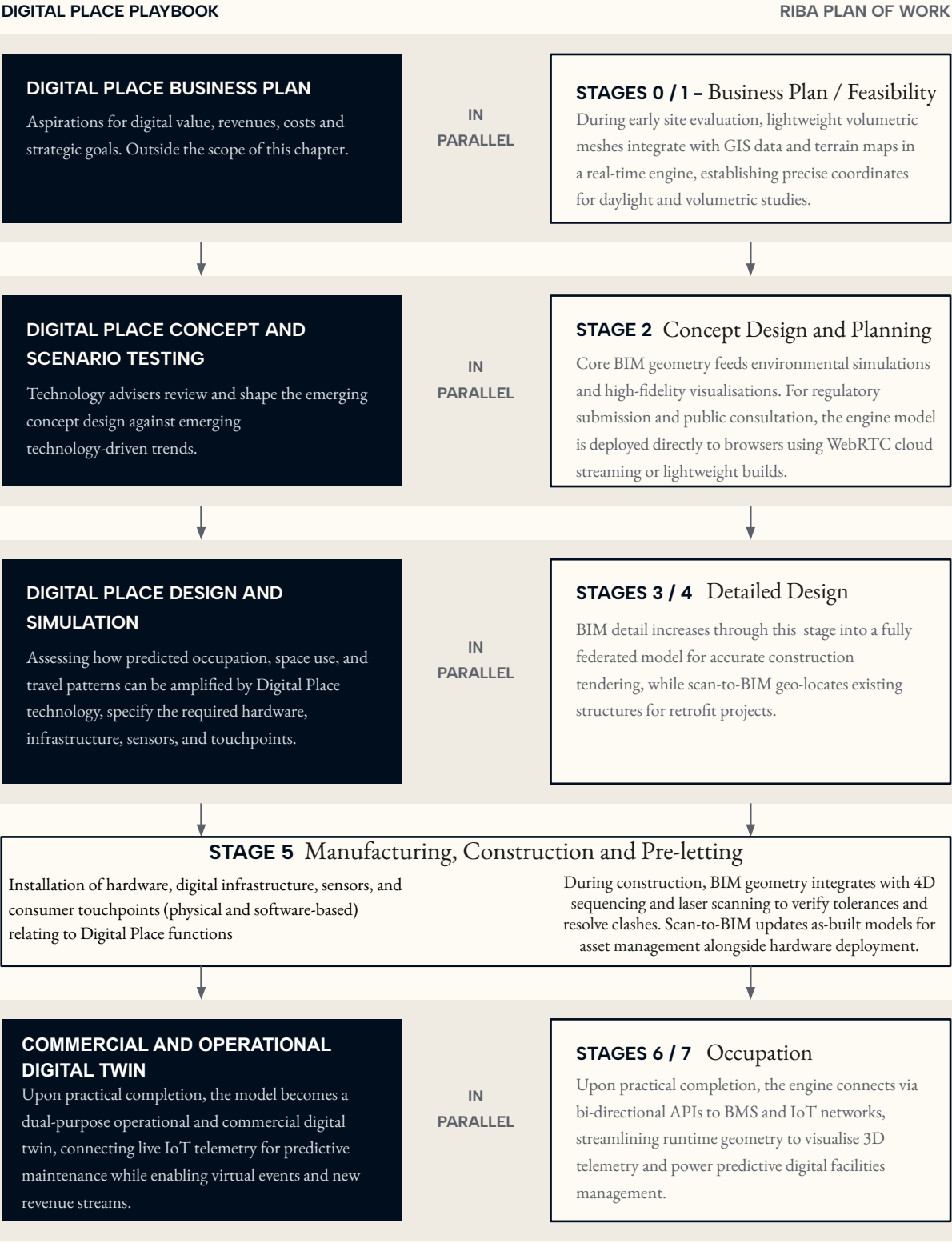
The commercial twin centralises site telemetry and spatial datasets for vendor deal platforms and data licensing. Adapting spatial assets into an enterprise online metaverse extends the destination beyond physical boundaries:

- **Virtual Events:** Hosting online concerts, gaming events, and exhibitions for global audiences.
- **New Revenue Streams:** Offering flexible, brandable digital spaces for sponsorships, pre-leasing showcases, and virtual commercial touchpoints.





Where The Digital Work Runs



CITYSCAPE DIGITAL





DE-RISKING DEVELOPMENT THROUGH USE OF SPATIAL ANALYSIS

By **Ed Parham**, Director of Innovation & Design, Space Syntax

Spatial analysis covers a range of techniques ranging from the simple visualisation of information on maps, to spatially linked datasets that create advanced forecast models.

Spatial analysis is most commonly used early in the design process to overlay existing datasets and better understand the wider spatial context to a project. By considering the points below, it could further evolve to make use of the abundance of open data, open source software and technology such as AI, fine tuning and performance testing designs to de-risk development decisions.

LOGIC

A conceptual model is needed to connect the project objectives to design decisions. Longer-term outcomes are linked to patterns of emergent everyday activity, and in turn the elements of the built environment that affect these — and which designers can influence.

For example, [better health outcomes are found in places where people are more active as part of their daily lives](#). The amount that people walk, and the routes they choose most often, are [influenced by their built environment](#).

This matters because applying these techniques to real-world questions is not a purely technical exercise in combining and analysing data. It is also

a knowledge-based process, where theoretical frameworks provide a basis for understanding what questions to ask, how to answer them and what data actually represents.

DATA

Making sense of available data requires positioning it within this conceptual model. To understand the limitations of data, it can be useful to categorise it in two ways.

Some data shows what activities happen, where and when — for example, pedestrian movement. Other data explains why these patterns emerge as they do — for example, connectivity in street networks.

REPEATABLE TOOLS (AND VALIDATED, INTERROGABLE MODELS)

The previous example points to a further consideration: some datasets, such as a street network, [may require additional analysis before it can become part of a more complex model that combines multiple datasets](#).

Consistent, standardised and replicable approaches are needed for these models and analyses. For the results to be trusted, they must be both validated against the real-world activities they seek to replicate, and interrogable to see the factors they combine and the logic they follow.

SUITABILITY

It is possible to build advanced tools combining many datasets and producing robust predictions. However, this may be time consuming, or more than is required.

Early in the design process, most elements are resolved to a strategic level to be refined in later stages. Tools used at this point need to give rapid feedback on the elements designers are dealing with, and that are relevant to decisions made at that stage.

For example, it may not be necessary to predict pedestrian movement figures. Instead, proxy measures such as street connectivity — which translate directly back into design considerations such as building footprints or lines of sight — are more suitable.

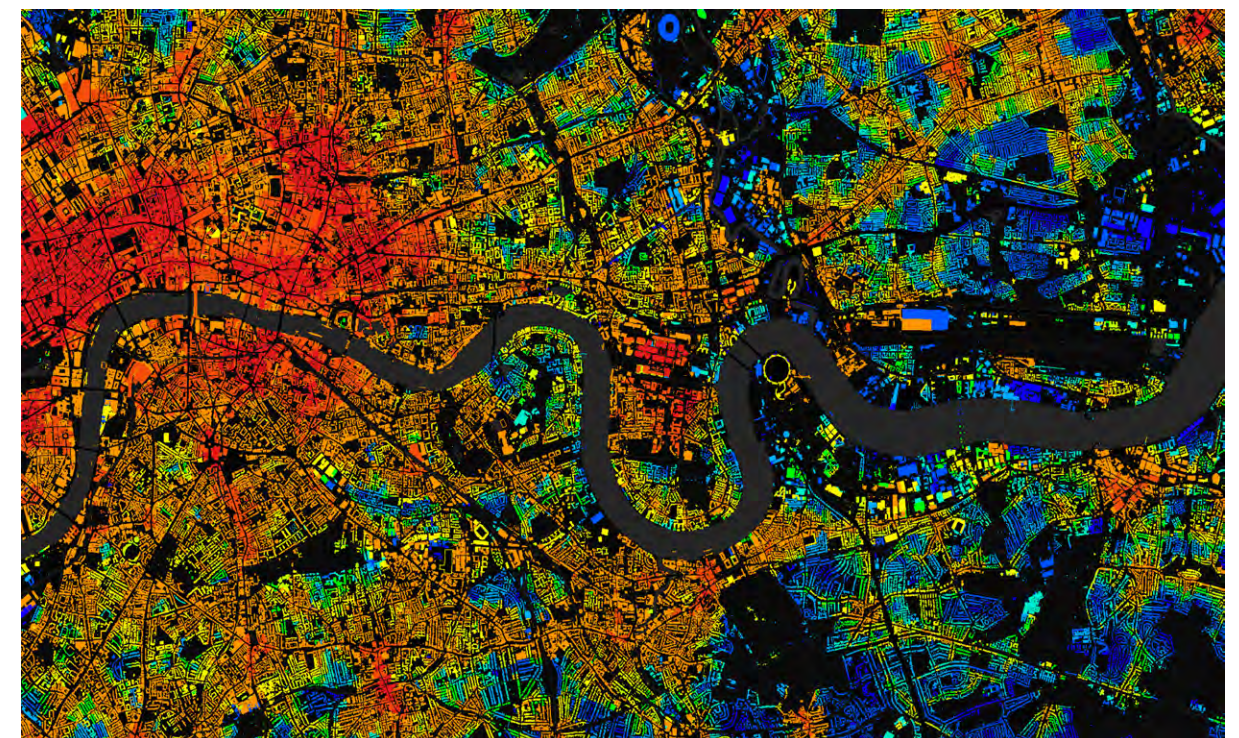
APPLICATION TO RIBA WORKSTAGES AND IMPACT

Spatial analysis, and the insights it brings,

can be used to integrate design decisions across scales and disciplinary domains.

By explaining how the built environment elements that a designer can influence affect daily activities (and long-term outcomes), it provides the potential to deliver genuine evidence-based approaches linking intervention to impact, increasing the likelihood of delivering financial, social and environmental objectives, and reducing the risk of failure.

These approaches have potential to influence early RIBA workstages: from setting realistic objectives for a project during Strategic Definition; to defining design performance metrics and thresholds during Preparation and Briefing; to rapid option testing during Concept Design. Once created, these datasets and models have potential to be used beyond design stages supporting the day-to-day management and delivery of services.





DIGITAL CONSTRUCTION: THE FOUNDATION FOR SMARTER PLACES

By **Alison Nicholl**, Head of Constructing Excellence, BRE

The construction sector is often criticised for being slow to adopt technology and resistant to change. But its fragmented supply chains, short-term incentives and delivery models can make transformation difficult. The greatest value will come not from adopting technology for its own sake, but from connecting construction data to the long-term performance of assets and places.

FROM BIM TO DIGITAL CONSTRUCTION TO DIGITAL PLACES

Technology adoption in construction has evolved in waves. The Constructing Excellence Digital Group began with a focus on BIM, moved into digital construction and now reflects a broader agenda: digitalisation has the potential to unlock value across the built environment well beyond the construction phase.

BIM has evolved from a design and coordination tool into a framework for effective information management across the asset lifecycle, supported by common data environments, defined information requirements and the ISO 19650 series.

This has enabled wider use of technology throughout delivery, including clash detection, on-site robotics, remote monitoring, data collection and safer planning and management of work. The opportunity is clear: digital tools can help solve real delivery, performance and safety challenges when they are focused on the right problems.

DIGITAL BY DEFAULT

Digital capability is now becoming embedded in construction rather than sitting apart from it. The sector is moving away from separate digital teams responsible for data and technology, towards a model where everyone is expected to work digitally by default.

Digital maturity is also reshaping roles, training and skills across the sector. Traditional construction roles are expanding to include broader digitally enabled capabilities, and everyone needs the confidence to use data and digital tools effectively.

DATA: THE FOUNDATION OF DIGITAL SUCCESS

Without reliable, structured and shareable data, digital construction cannot deliver its full potential. Fragmentation makes consistent data difficult to access, interpret and reuse, while initiatives such as nima and the Manufacturers' Information Hub are helping improve consistency, governance and access to high-quality information.

THE CONSTRUCTION-PROPTech CONNECTION

Proptech and digital construction are part of the same digital built environment ecosystem. Effective proptech relies on good upstream construction and asset data because decisions made during design and construction shape how an asset operates, performs, adapts and is

experienced over time. Operational data gathered through proptech can also improve the design, delivery and performance of future assets.

UNDERSTAND CONSTRUCTION BEFORE DESIGNING THE SOLUTION

Technology providers need to understand the root causes of construction challenges before designing solutions. The sector is shaped by fragmentation, specialist supply chains and commercial models that do not always support investment in people, data and technology.

EMERGING FRONTIERS: AI, INDUSTRIALISED CONSTRUCTION AND INTEGRATION

AI presents opportunities for construction, particularly in insight generation, risk management, optioneering and knowledge capture. The priority is to understand the problems being solved and the people, process and technology factors that influence success, including skills, ethics, governance and practical use cases.

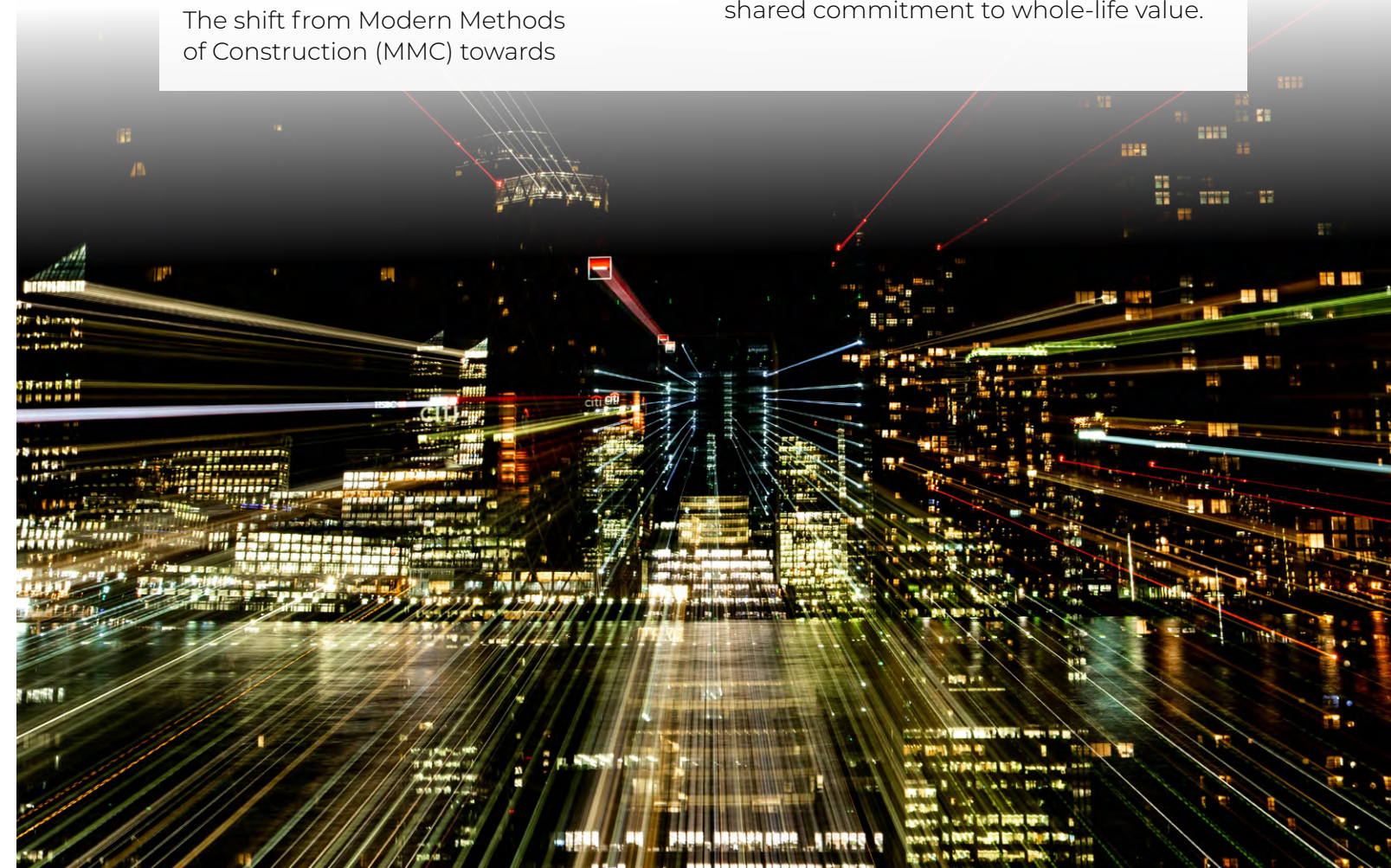
The shift from Modern Methods of Construction (MMC) towards

industrialised construction also creates opportunities to embed repeatability, standardisation and digital workflows from the outset, supporting innovation, integration and better whole-life outcomes.

UNLEASHING THE POTENTIAL

To unlock the full potential of digital construction, the sector and its technology partners must start with the problems they are trying to solve, the root causes behind them and the conditions needed for solutions to work at scale. Good-quality data is essential, but so too are commercial models that enable investment in skills, interoperable information and technology.

Digital construction is not an end in itself. It is the foundation for better buildings, smarter assets, more sustainable places and improved outcomes for people. The opportunity now is for clients, technology providers and construction leaders to connect construction, property and place through interoperable information, sustained investment in skills, collaborative commercial models and a shared commitment to whole-life value.





ENERGY ACCOUNTING: THE MISSING LAYER IN SUSTAINABLE DESIGN AND REPORTING

By **Tony O'Keeffe**, Chief Operating Officer, OPNBuildings

Low-energy and low-carbon ambition is often established during preparation and briefing. Yet the information needed to test that ambition is frequently treated as an operational detail to be resolved after handover. This creates a fundamental gap: a project may specify efficient systems without specifying how energy performance will be accounted for.

THE MISSING BRIEF

Energy data is commonly approached as a collection of meters, dashboards and building management system points. Those are components, not an accounting system. The real requirement is a dependable method for explaining where energy came from, where it went, what it cost and what activity or condition drove it.

That method should be defined in the project brief. It requires agreed reporting boundaries, an energy account structure, clear treatment of generated and imported energy, and rules for allocating consumption to buildings, systems, tenants, processes and shared services. Without these decisions, more data can create more disagreement rather than more insight.

WHAT FINANCIAL-GRADE MEANS

Financial-grade energy reporting does not mean pretending that every sensor is a fiscal meter. It means applying

accounting discipline to energy information: completeness, consistency, traceability, controlled adjustments and a clear audit trail. Every reported figure should be capable of being reconciled to a trusted source and explained when it changes.

This distinction matters because sustainability reporting increasingly informs budgets, investment decisions, performance commitments and carbon disclosures. A visually impressive dashboard is not enough if totals do not reconcile, gaps are silently estimated, meter changes break historical continuity or different teams calculate the same measure in different ways.

DESIGN THE ACCOUNT BEFORE THE DATA FLOW

The preparation and briefing stage is the right time to define the questions the future place must answer. What are the significant energy uses? Which loads require direct measurement? How will landlord, tenant, process and common-area consumption be separated? How will on-site generation, storage, exports and purchased energy be represented? Who owns each data source and who approves corrections?

These questions translate sustainability goals into information requirements. They guide metering strategy, system

architecture, naming conventions, data retention and handover. They also expose where design teams, contractors, operators and reporting teams need a shared definition before technical choices narrow the available options.

A DURABLE DIGITAL FOUNDATION

Energy accounting should sit above individual controls and vendor platforms. Building management systems optimise equipment; meters measure flows; analytics identify patterns. The accounting layer connects these sources into a governed record that remains intelligible when assets, suppliers, tariffs, organisational boundaries or software platforms change.

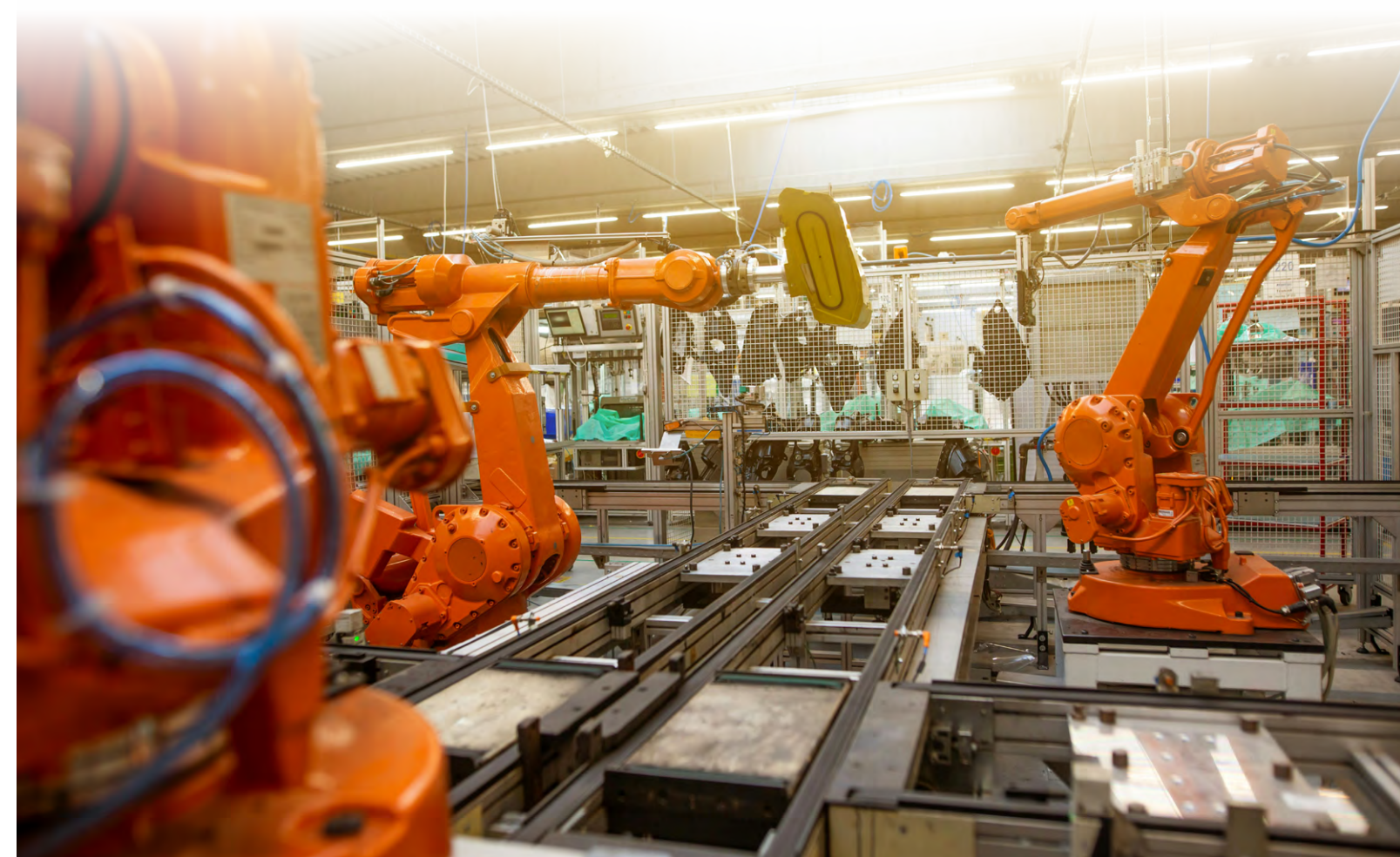
This is particularly important at place scale, where energy may cross multiple buildings, networks, ownership structures and operational responsibilities. The aim is not to centralise every system. It is to establish a common reporting model

through which distributed systems can contribute reliable, comparable information.

BRIEF FOR EVIDENCE, NOT ASPIRATION

A low-carbon brief should therefore describe not only the performance sought, but the evidence required to demonstrate it. That means treating energy accounts, data quality rules, reconciliation processes and reporting responsibilities as part of the digital infrastructure of the place.

When this is done early, digital tools can support better design decisions and create continuity from concept through operation. When it is deferred, the project inherits fragmented data and retrospective workarounds. Environmental resilience begins with knowing, with confidence, how energy is actually used.





TENANT EXPERIENCE STARTS AT THE BRIEF NOT THE APP STORE

By **Dan Drogman**, CEO and Co-Founder, Smart Spaces

Too often, I see tenant experience treated as a final-mile technology decision. The building is designed, systems are procured, amenities are chosen, and only then does someone ask what the occupier app should do.

That sequence is backwards. Although tenant experience becomes visible during construction and use, the decisions that determine it should be made much earlier. The real question is not, 'Which app do we need?' It is, 'How should this place behave?'

DESIGN THE OPERATING MODEL BEFORE THE INTERFACE

An app is not the tenant experience. It is simply an interface to the building, its services and its community.

The experience is what happens when access, lifts, visitor journeys, amenity bookings, events, food and beverage, environmental controls, communications and building data work as one system. When these are procured in isolation, the occupier inherits the seams.

This matters because amenitisation has changed. It is no longer a checklist of gyms, cafés and lounges. The best buildings use amenities to create community, support wellbeing and give people reasons to engage with the place around them.

[22 Bishopsgate](#) is a useful example. The [City of London's tallest office building](#)

[was conceived as a 'vertical village', with more than 120,000 sq ft of shared space and amenities](#). It became fully let in January 2025, with AXA IM Alts reporting that average rents exceeded its original underwrite. Smart Spaces' platform supports [more than 56,000 active users](#), connecting access, bookings, events, food, amenities and other everyday interactions.

Technology alone did not fill the building. But the outcome is evidence of the value of a coherent proposition where workplace, hospitality, technology, sustainability and service reinforce each other.

AMENITISATION SHOULD STRENGTHEN PLACE

Digital placemaking should not make every building feel the same. The digital layer should amplify the identity and community of a place, not become another global template. A City tower, a heritage retrofit and a neighbourhood workplace should not deliver identical experiences simply because they use the same technology.

[At TBC.London](#), for example, occupier services sit alongside a rooftop garden, clubroom and an Urban Village Hall that opens the building to charities, social enterprises and the local community. The digital layer helps people discover, access and participate in that ecosystem rather than replacing it.

That is where technology earns its place. It removes friction around the things that make a building human.

USE DATA TO CHANGE BEHAVIOUR

The next step is moving from convenience to agency.

At [160 Old Street](#), real-time energy information helped one tenant achieve an almost 10% reduction in energy consumption within a month. The behaviour was then converted into an automated workflow.

This is a simple but important principle. Sustainability becomes more powerful when people can see the consequences of their choices and buildings can respond to them.

THE SMARTEST TECHNOLOGY SHOULD DISAPPEAR

We need to stop measuring tenant experience by the number of features in an app.

Success is fewer seams between physical and digital space. People enter without friction, find what they need, participate in the community, understand their environmental impact and access services without thinking about the technology underneath.

For developers and landlords, that creates more than convenience. It creates a place people choose to spend time in, identify with and return to.

The future of tenant experience is not another digital layer added at handover. It is designing the digital and physical place as one experience from the start.





WAYFINDING: “MAY YOU WALK IN BEAUTY”

By **Jarnail Chudge** & **Steve Lorimer**, Spatial Sound & Guidance Company

“May you walk in beauty” originates from Navajo philosophy and expresses the concept of living in harmony with our surroundings.

RECLAIMING THE LOST ART OF WAYFINDING

That glowing blue dot on smartphone maps turns us into passive beings. We outsource orientation. We are unthinking followers. In doing so, we have sacrificed a fundamental part of our relationship with the world and the built environment in particular.

Wayfinding is entirely different from *navigation*. While navigation is turn-by-turn, wayfinding builds a mental map of your surroundings. For thousands of years, humans traversed vast landscapes by reading natural cues, developing complex cognitive and mental abilities to support their movement. Our brains evolved to dynamically create mental maps of real places. Instead of blindly obeying prescriptive instructions, you actively understand where you are in space.

Are the blue dot and turn-by-turn directions delegating our spatial awareness to a screen? This approach to navigation could have serious consequences from cognitive offloading

eroding our natural abilities and skills. When we stop using our natural spatial awareness skills and memory, our mental mapping capabilities can begin to fade. There are famous examples where drivers have steered into ditches or onto active airfields following turn-by-turn directions.

Does letting algorithms make our directional decisions matter? We think it does, because just following the blue dot changes our relationship with the physical environment. We no longer engage. We instead become passive, and detached. There is a richness of the world we inhabit - and we may lose our abilities to realise this richness.

AMPLIFYING OUR NATURAL HUMAN ABILITIES

We believe that people are ready to reclaim these abilities and move off of the blue dot on the smartphone screen. The signal that we see is audio. We see people communicating with voice notes. We experience offices filled with the sound of people conversing with AI assistants instead of typing instructions. What if

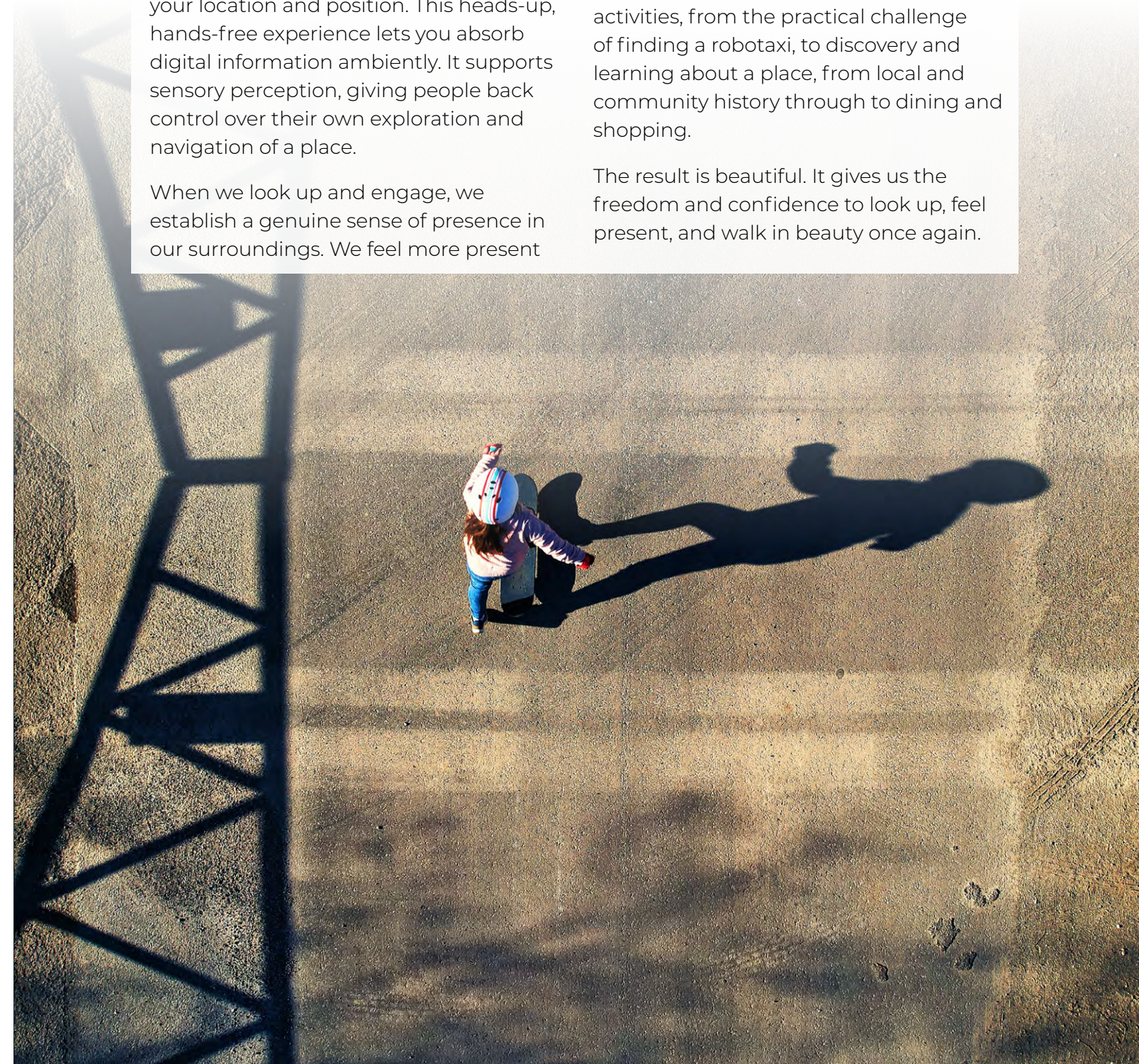
wayfinding was filled with this voice and audio conversation instead of navigation by screen?

Spatial audio solutions jump onto this trend and support our innate wayfinding skills. A gentle audio compass allows your brain to calculate paths naturally and build mental models of space in the background. By using virtual audio beacons, it is possible to place text and audio cues that are directional and appear to come from where they are in the physical environment in relation to your location and position. This heads-up, hands-free experience lets you absorb digital information ambiently. It supports sensory perception, giving people back control over their own exploration and navigation of a place.

When we look up and engage, we establish a genuine sense of presence in our surroundings. We feel more present

and connected to the physical spaces of the built and natural environment around us. This presence is the perfect antidote to our current obsession with looking at screens and shutting ourselves off from the world. This does not signify a Luddite movement - it's about leveraging the richness of hyperlocal information and the opportunities of AI. We take advantage of the new obsession through having conversations with voice and audio. An intelligent and dynamic guide for your ear with the power of AI, to support you in everyday wayfinding activities, from the practical challenge of finding a robotaxi, to discovery and learning about a place, from local and community history through to dining and shopping.

The result is beautiful. It gives us the freedom and confidence to look up, feel present, and walk in beauty once again.





VALUING THE DIGITAL ASSET

By **Daniel Rose**, Partner, Gravita

A building has traditionally been valued by reference to its physical characteristics, including location, size, condition, rental income and the strength of its leases. As technology becomes more embedded in the built environment, a new question is emerging, what is the value of making a place digital?

WHAT DIGITAL PLACEMAKING INCLUDES

Digital placemaking can include smart building systems, connected infrastructure, tenant apps, access systems, sensors, data platforms, environmental information and interactive experiences. Together, these technologies can change how a building is operated, experienced and monetised. Unlike bricks and mortar, the value of this digital layer is not always easy to isolate.

WHY IT MATTERS

Consider two otherwise identical buildings. One has limited connectivity and relies on traditional manual processes. The other uses technology to optimise energy consumption, manage occupancy, automate maintenance, improve security and provide tenants with a smoother digital experience. Although the physical assets may be comparable, the digitally enabled building may generate higher income, lower operating costs and a stronger proposition for occupiers.

This raises an important question for the real estate industry, should that

additional value be reflected in the property valuation, or should the digital asset be considered separately? It also raises a question about who is best placed to value it, whether that is a real estate valuer, a business valuer, or a combination of both.

HOW VALUE MAY ARISE

In practice, the answer is the usual one, it depends. Some digital investments have a direct and measurable impact on the underlying property, such as reducing energy costs, improving operational efficiency or supporting maintenance planning. Others create fewer tangible benefits, including stronger tenant engagement, improved retention and greater marketability.

The data generated by a building can also hold value. It may give owners better insight into how space is used and support more informed investment, operational and asset-management decisions. Who owns the technology and the data will often determine who captures that value.

QUESTIONS FOR VALUERS AND ASSET OWNERS

- Does the technology generate additional income?
- Does it reduce operating costs or improve efficiency?
- Does it improve the performance, resilience or sustainability of the asset?

- Does a comparable digital solution already exist in the marketplace?
- Does it create a competitive advantage that tenants are willing to pay for?
- Is the benefit sustainable over time?

TOWARDS A MORE CONSISTENT APPROACH

As digital infrastructure becomes a fundamental part of the real estate environment, these questions will become increasingly important. The industry may need to develop more consistent approaches to identifying, measuring and attributing value to the digital layer of a property.

Ultimately, the question is not simply, 'What is the digital asset worth?' It is also, 'What additional value does a

digital place create compared with an equivalent physical place without that digital layer?'

As the boundary between physical and digital real estate continues to blur, understanding that difference could become an increasingly important part of how property is valued, managed and approached as an investment.

As technology becomes more embedded in the built environment, a new question is emerging: what is the value of making a place digital?

This raises an important question for the real estate industry: should that additional value be reflected in the property valuation, or should the digital asset be considered separately?

In practice, the answer is the usual one: it depends.





WHAT DIGITAL PLACEMAKING DEMANDS OF THE BUILT ENVIRONMENT WORKFORCE NOW AND IN THE FUTURE

By **Jo Tasker**, CoLead TLA PropTech/CEO Community Coworking

The future digital place is not just an architecture of data and technology — it is, also, an architecture of people.

Every chapter in this Anthology describes a technology or capability a future place needs - connectivity foundations, digital modelling, autonomous building operations, intelligent wayfinding. What's missing from most masterplans today isn't the vision for these components; it's the workforce capable of specifying, coordinating, building and running them.

Skills Development sits alongside Valuing the Digital Asset as two themes spanning the full RIBA lifecycle (Stages 0–7), because workforce capability like value isn't confined to a single stage. It's the enabling layer beneath every other chapter in this book.

The scale of the challenge is significant, and construction sits at its sharpest edge. Compounded by the competition for talent, which is pitting construction against tech, pharma and services for the same pool of digitally savvy experts.

Across the UK workforce, 52% of working-age adults cannot complete all 20 digital tasks defined as essential for work.

Construction has the highest gap of any sector [FutureDotNow \(FDN\) tracks it at 65%](#), which is why FDN has named Construction and Infrastructure a priority sector for its digital skills work, alongside partners including Amey, Bouygues, National Highways and Network Rail.

[FutureDotNow and the Centre for Economics and Business Research](#) estimate that closing the workforce essential digital skills gap could add £23 billion a year to the UK economy, boost workforce income by over £10 billion annually, and lift UK industry profitability by £8.5 billion.

Against a need for [1.3 million new construction recruits over the next decade — and CITB's own forecast](#) of 239,300 extra workers required by 2029 — the ambitions set out across this anthology's Enterprise Architecture of Place (Ch. 1) risk remaining aspirational unless matched by equivalent investment in foundational, not just advanced, digital skills.

STAGES 0–1: STRATEGIC DEFINITION & BRIEFING

Digital skills are required before any spade is in the ground. Before Enterprise Architecture is defined, Connectivity Foundations (Ch.3) or Digital Planning (Ch.4) can be specified, briefing teams need the data literacy to write for a digital-first outcome – requiring digital infrastructure procurement literacy; interpreting workforce and demand modelling; digital citizen-engagement platforms, and early-stage BIM strategy.

STAGES 2–3: CONCEPT DESIGN & SPATIAL COORDINATION

This is where Digital Modelling (Ch.5) and Spatial Analysis (Ch.6) are drawn up — and where BIM coordination capability, despite 73% industry adoption, remains scarce. Organisations are now looking for hands-on AI capability as well as traditional [BIM proficiency as the priority skill to build](#).

Autodesk's second annual [State of Design and Make report](#), found the top three future skills named by construction companies are the ability to implement and work with AI, digital design tool fluency & digital project management.

STAGES 4–5: TECHNICAL DESIGN & MANUFACTURING/CONSTRUCTION

Digital Construction (Ch.7) depends on Modern Methods of Construction reaching genuine scale — yet the sector has yet to achieve a sufficient economy of [scale to deliver MMC at pace](#), this is a workforce and industrialisation gap as much as a technology one.

Design for Maintainability and Design for Manufacturing and Assembly (DfMA), both of which are now essential for regulatory compliance and operational efficiency, alongside data analytics, digital fabrication, robotics, MMC-specific site coordination, and digital process management skills.





STAGE 6: HANDOVER

The “golden thread” of digital asset information, requires the continuous digital record of a building’s data from its initial design through its entire lifecycle. The handover point between delivery, the Building Operations (Ch.8) and Tenant Experience (Ch.9) systems—is critical. A building can’t be valued as a “digital asset” (Ch.11) if handover data is incomplete or insecure. Digital asset teams require cybersecurity and data security literacy alongside asset information management.

STAGE 7: USE

Autonomous Building Operations, Tenant Experience and Wayfinding (Ch.10) all assume a workforce — and a public — equipped to use them. Operating connected public infrastructure, depends on tackling digital exclusion well beyond the delivery workforce and into the community. Data security and safety are priority skills to building owners specifically, distinct from the digital project management skills prioritised earlier in the lifecycle.

BEYOND THE CURRENT GAP: SKILLS FOR THE NEXT DECADE

The shortages above describe today’s workforce. But the built environment professional of the next decade will need to keep abreast of additional and rapidly developing skillsets. For example, [digital twins are moving from emerging technology to an industry standard](#), shifting the skills conversation from BIM authorship (a design-stage model) toward live data interpretation - simulating live building performance, detecting issues before they become costly failures.

This is [producing genuinely new hybrid](#)

[roles](#) rather than simply digitising old ones. Occupation forecasting already describes site-based roles blending traditional supervisory expertise with digital tools. Construction site managers will be expected to evaluate construction progress, and adapt processes, scheduling or safety recommendations based on data analysis.

CONCLUSION

Ultimately, for Built Environment professionals AI literacy alone won’t be sufficient without the skills & competencies to apply, use and manage AI tools within the everyday.

Essential Digital Skills remain an urgent priority. A workforce that cannot yet perform basic digital tasks cannot be expected to leap straight to AI oversight and digital twin interpretation.

Domain competence – AI doesn’t replace the need for traditional specialisms such as architecture, engineering or quantity surveying – because deep expertise is required to know whether the AI’s output is reliable.

Human-centred integration is key. Weaving AI tools into the everyday is a skill that has people, judgement and context at its core:

- Knowing when a task needs AI or a human’s contextual judgement
- Adapting AI generated work, design or schedule to the realities of a project
- Keeping end users, site teams and the public in view as part of the process

The message is clear. None of the capabilities explored in this book can be delivered without a parallel, stage-by-stage workforce strategy, built for both

the workforce we have today and the one the next decade will demand. The future digital place is not just an architecture of data and technology — it is, also, an architecture of people.

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