

💡 Collective insights

Smart Space Forum #1

From Data to Dialogue: A Shift to Data-Driven Estates

How higher education estates are moving away from flying blind and instead using real-time data to generate actionable insights for their overarching estate plans and making an impact within the institutions.





The Challenge

Estates Are Flying Blind

Higher education institutions manage massive, historically complex estates that are becoming increasingly expensive to operate and maintain. Every square meter of space carries ongoing costs including cleaning, heating, maintenance, and decarbonisation. As funding tightens, it's crucial to focus on both the quantity and quality of space.

For decades, universities have relied on anecdotal evidence and manual audits which only provided a static snapshot. Transitioning to a smart campus means capturing the dynamic, living model of buildings to understand their natural rhythms. In the Smart Space Forum, a collaborative group of higher education estates leaders shared common hurdles and suggested emerging Solutions to drive evidence-based decisions regarding future campus developments and decarbonisation goals.

Key Challenges Facing Higher Education Estate Transformation

Siloed Data and Decentralised Management



University estates work with numerous disconnected systems. Their functions are also often decentralised, with individual faculties and schools managing a big proportion of teaching spaces independently which makes it challenging to create a unified view of the campus.

The "Booked vs. Actual" Illusion:



Timetabling systems do not reflect reality. A persistent and costly issue is the gap between timetabled space and actual utilisation. While systems frequently show rooms as fully booked, physical walk-throughs reveal them to be empty, leading to perceived space shortages and massive inefficiencies.

Cultural and human factor



Space is highly emotive in academia. Attempts to introduce desk-sharing are often met with intense resistance.

Start Simple and Prove Value

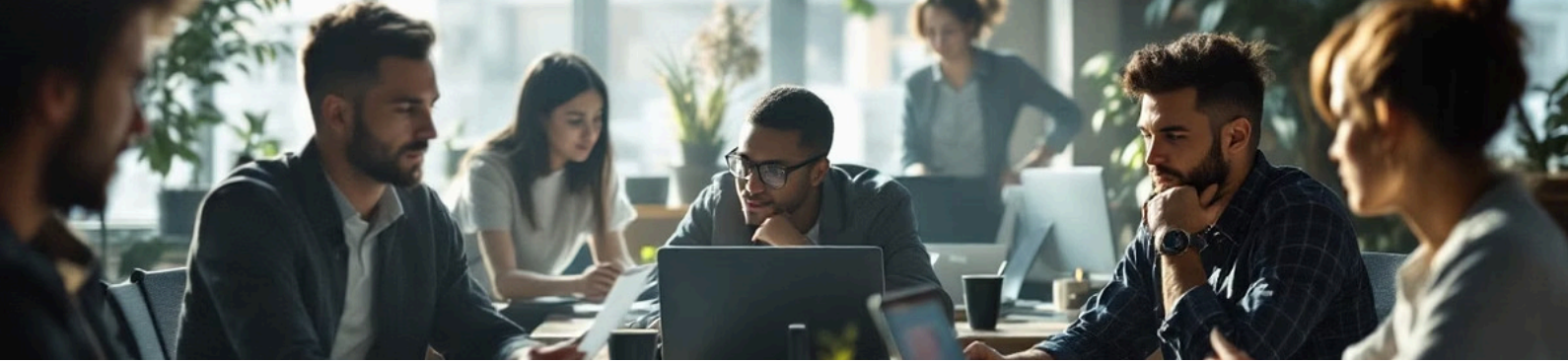
To move away from operating blindly, institutions must discover and leverage data to understand fundamental questions: space usage, operational costs, and environmental efficiency. The journey doesn't require a sweeping transformation, it begins with simple, focused pilot initiatives.

Start by defining your objective. Whether it's improving space utilisation or testing a new campus plan, clarity here guides everything that follows. **Next, understand what you already have.** Most universities possess valuable digital infrastructure such as access control systems, timetabling software, and utility meters. Strategically layer in IoT sensors to track occupancy and environmental metrics like CO2 and temperature. **Start small and achieve quick wins.** Rather than pursuing perfect campus-wide solutions immediately, focus on simple, deliverable initiatives that demonstrate the value of your data. This keeps momentum and proves the concept before scaling. **From there, real-time monitoring becomes possible,** enabling you to adapt spaces to changing needs.



A practical example shared by an university estate team

The team's ongoing smart campus project initially focused on analysing the utilisation of their largest, most popular rooms to better understand their high-demand teaching Spaces. Recently, the estate team began with a pilot roll out to test their new Estates Enabling Strategy. They specifically installed floor-level sensors in two specific buildings – one old building and one new building. With a clear objective and simple steps, they are generating meaningful insights by overlaying occupancy data with utility meters (e.g. electricity, gas, and district heating) before expanding further.



Conversation

Build a Trust-First Culture

Data and technology alone cannot solve university space inefficiencies. They must be paired with cultural change and trust-building.

The most important shift estates leaders can make is repositioning data from a monitoring tool to a support system. The true value of data is only unlocked when it is used to tell supportive stories rather than calling out departments for poor utilisation.

"Close Enough Is Good Enough" to Start

Approximate data is perfectly adequate to identify trends and, most importantly, justify starting a conversation with a department about how they operate.

Share insights as support, not surveillance

If a space shows low usage, the conversation should be framed as an opportunity to provide better support or upgrade the spaces, rather than a threat of removal.

Adopt a mindset of storytelling

Use data and interactive visualisations to tell a story. Translate data into actionable opportunities, such as telling a department exactly how many teaching spaces are booked but remain available, empowering them to schedule more sessions and activities confidently.

Pick your 'battles', focus on change makers

When implementing new policies, concentrating on the collaborative change makers, rather than fighting the stubbornly resistant 10%. It is better to influence the culture around them.

- 📄 **Language matters:** Instead of flagging a room as underutilised with a red label, say: **"Three 2-hour seminar slots are free every Tuesday."** Avoid red/green judgement labels – communicate opportunity, not verdict.



Conclusion

From Data to Lasting Impact

True transformation begins with a simple premise: you cannot manage what you do not measure. By starting with focused pilot initiatives and "quick wins," universities can prove the value of data before scaling to a campus-wide vision. This isn't just about technology, it's about using data to tell the stories that build trust and drive change within the institution. Ultimately, the ideal smart campus is a balanced one that is financially sustainable (Efficiency), carbon-conscious (Environment), and a joy to work and study in (Experience).

Don't navigate the transformation alone. The Smart Space Forum provides the platform where higher education estate leaders meet to share, learn and act. Join our conversation to build a smarter, more sustainable future and improve the sector collectively.

The Path Ahead



Shifting organisational culture

The next phase sees data woven into the fabric of institutional strategy, where estate insights guide financial and academic decision-makers toward sustainable growth.



Standardising the "Good" Outcome

Through ongoing peer collaboration, we are defining a universal standard for space types. This allows us to move past guesswork and measure performance against standardised KPIs that reflect true user needs.



AI and predictive master planning

The ideal campus leverages AI agents for monitoring building data and proactively suggest actionable insights and ultimately enabling automated decision making.



About Smart Space Forum

Smart Space Forum is a collaborative, action-oriented group of higher education estates leaders from across UK higher education establishments. We meet two to four times a year to engage in open, active, and meaningful conversations about the future of university estates.

Join the conversation:

- Develop ongoing relationships with distinguished peers from a select group of established and innovative establishments.
- Apply the experience and knowledge gained from the Forum to address issues and opportunities within your own organisation.
- Help shape the future of estate and space management by influencing the vision, direction and solutions for managing the built environment.



Meets 2–4×/year

Regular convenings with sector peers



UK Higher Education

Estates leaders from across UK institutions



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5 Questions to Ask Your Team Today

The Data to Dialogue framework is most powerful when it prompts action. Use these five questions as a starting point for your next strategic conversation with your estates, operations, and leadership teams.

1

How do I identify the right size for my estate — and what evidence do I need to make that case?

2

How do I figure out which parts of the estate to keep, and which to rationalise or dispose of?

3

How do I improve operational efficiency so I can look after my estate with less resource and greater impact?

4

How might I reduce energy bills and meaningfully improve my institution's sustainability credentials?

5

How do we use this data to tangibly improve the student experience — and demonstrate that we have done so?