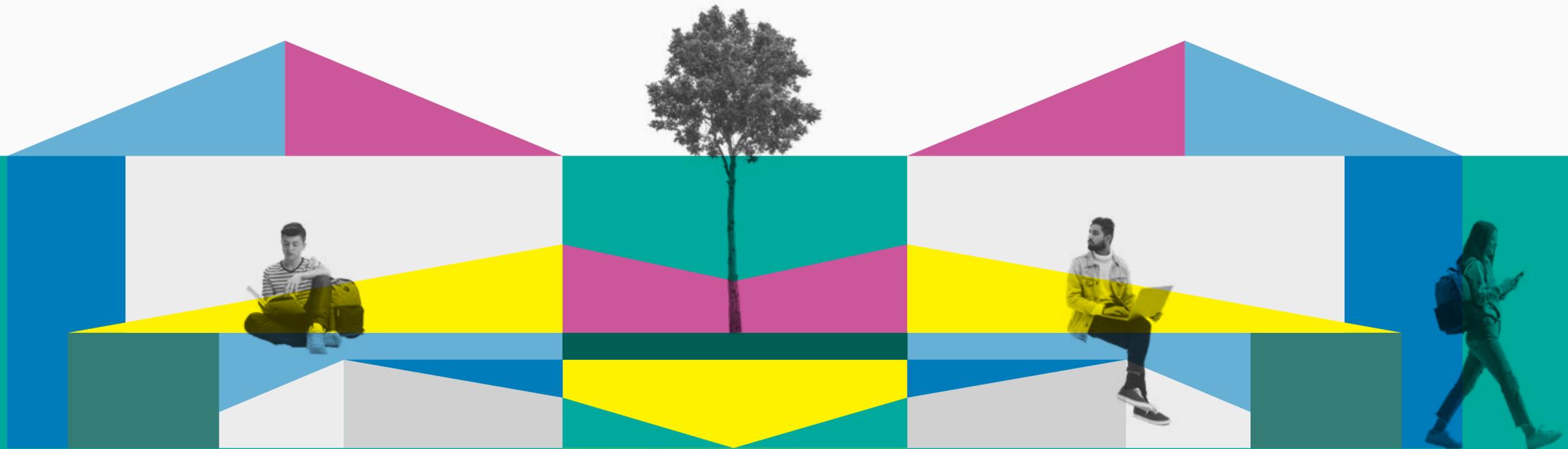


# THE UNIVERSITY CHALLENGE



**Reshaping estates to unlock hidden value**

**Solving utilisation** to transform the campus experience **03**

**Passing the Net Zero test**, without greenwash **05**

**How Portsmouth's new master plan** is reimagining community **07**

**Winning the ratings game**: nine steps to a student-centric campus **11**



# WHAT MAKES THE UNIVERSITY CAMPUS OF THE FUTURE?

A university's estate can be a competitive edge, at a time when student numbers are falling, and both school leavers and employers are turning to alternative routes into a career.

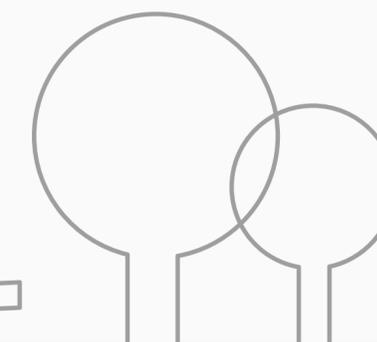
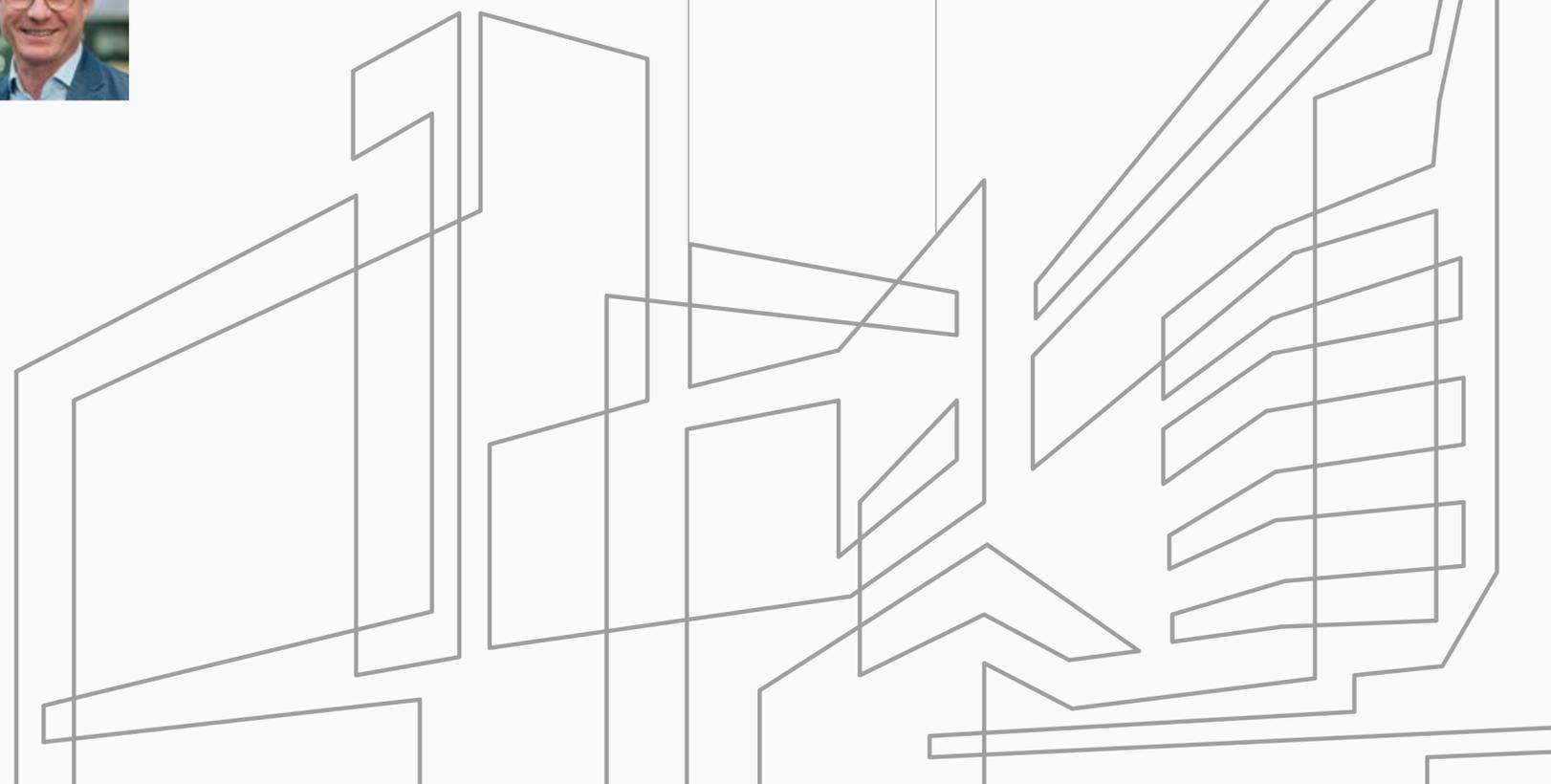
At Ridge, we are working with institutions across the UK to help them unlock the potential of their buildings and open spaces, transform them into compelling destinations, and reinforce the sense of community that has been threatened by the pandemic and the rise of hybrid learning.

We take a multidisciplinary approach, bringing together experts in Master Planning, Architecture, Specialist Design, Asset Management, Sustainability, and much more, and drawing on experience in diverse sectors such as commercial offices, science parks and Formula One.

Together, we help universities to seize opportunities to make their campuses more student-centric, to support the health and wellbeing of a generation at the sharp end of a mental health crisis, to meet their Net Zero ambitions, and create flexible buildings with the potential for greater utilisation that can co-evolve with a rapidly changing job market.

## Graham Blackburn

BA(Hons), Dip Arch, RIBA, PGDip  
Head of Architecture at Ridge



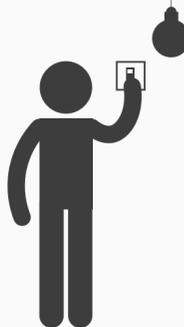
# SOLVING THE UTILISATION CHALLENGE

Using university estates more efficiently is the key to unlocking their potential

Universities typically have large, diverse estates, which have never been used as intensively as buildings in other sectors. But a combination of recent trends has sent utilisation rates plummeting, in some cases leaving tumbleweed blowing through once lively campuses and classrooms.

This means that universities are spending constrained budgets on maintenance and power for spaces that are surplus or no longer useful. It also diminishes the campus experience and hinders progress towards climate goals – both key selling points in an increasingly competitive market for students and teaching staff.

But our experience across many university campuses suggests this challenge of underutilisation can also be seen as an opportunity. By seizing the initiative and rethinking higher-education spaces, universities can transform their estates to meet the demands of a rapidly changing world. >>



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Online teaching means  
500-seat lecture theatres  
are a thing of the past

Leonard Poon  
Partner | Cost Management



## 01

### CHALLENGE

#### **FALLING STUDENT NUMBERS**

Today's young people are turning away from university as the default path to a professional career – unwilling to launch careers with a hefty student debt. Meanwhile, Covid and tightening immigration restrictions have dented international student intakes, and the income that they bring. “The reduction in student numbers, particularly from overseas, is a massive challenge for the university sector as a whole,” says Matthew Winn, a Partner in the Project Management team at Ridge, “That has impacted cash flow, and their ability to invest in capital improvements.”

### OPPORTUNITY

#### **CONSOLIDATE**

Ridge helps universities analyse their space with the aim of consolidating scattered functions. “This means making better use of existing buildings, and freeing up unneeded ones,” says Ridge Cost Management Partner Jackie French. This can reduce rental costs or release funding for investment elsewhere.

“We look at utilisation levels and timetables to decide whether a department needs a separate building, and we find opportunities where study spaces and lecture theatres can be shared,” adds her colleague Leonard Poon, also a Partner in our Cost Management team. “Then a cost-benefit analysis determines whether greater value can be derived from retaining a building and renting it out, or selling it to reinvest elsewhere on the estate.”



## 02

## CHALLENGE

**BLURRED LINES BETWEEN STUDY AND WORK**

More students are opting to combine study with work, either through degree apprenticeships or selecting courses that guarantee employability. This shift to part-time learning and sandwich courses means dedicated teaching spaces may only be needed for a few hours a week, or at certain times of the year. The higher demand for vocational subjects requires universities to offer courses that continually evolve, so they stay relevant in a rapidly changing job market.

## OPPORTUNITY

**FLEXIBLE TEACHING SPACES**

Flexible spaces can accommodate different subjects, improve utilisation rates, and are more easily adapted as demands change. "Standing back to consider utilisation at an estate level leads to a 'loose-fit' approach with less emphasis on department-led thinking," says Graham Blackburn, Head of Architecture at Ridge. This means designing multifunctional buildings with open floorplates, demountable partitions, modular services and easily moveable furniture. This echoes a parallel shift in commercial and industrial buildings, he adds. "Much of the work our design teams do in the Formula One industry involves constantly changing interiors, unplugging critical bits of kit and moving them elsewhere."

## 03

## CHALLENGE

**HYBRID LEARNING IS THE NEW NORMAL**

After learning was forced online during Covid, students now expect a rich and interactive hybrid environment that combines more in-person teaching time with flexible, convenient online interactions. A permanent shift to this model could bring fewer students and staff on site, impacting not only the



utilisation of teaching buildings, but also individual study areas, support services and amenities. Campuses could become less vibrant, and the overall student experience less appealing – leaving universities struggling to differentiate themselves, or to justify the time and expense of taking a degree at all.

## OPPORTUNITY

**PRIORITISE THE STUDENT EXPERIENCE**

"When we design university buildings today, our focus is firmly on student experience and mental wellbeing," says Leonard. "We provide opportunities for people to engage with society." This doesn't mean spending more, but it does mean allocating space and budgets differently. For example, the infrastructure required to record and broadcast lectures may have increased, but the cost is offset by a need for smaller buildings. "Online teaching means 500-seat lecture theatres are a thing of the past," he says. "Our designs now provide 150 or 200 seats."

Underutilised teaching areas could be converted to social learning environments for today's hybrid world. "If only 40% of a five-storey building is needed, you have three storeys to rehouse other faculties or provide new types of space," says Matthew Richards, a Partner in our Architecture practice. "We've been helping clients develop 'learning commons' – somewhere between a library and a social space. They encourage group working, but also offer quiet, secluded areas to cater for all students."

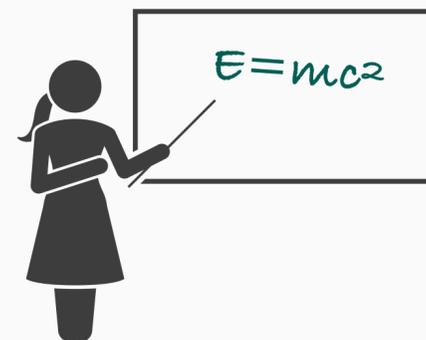
## 04

## CHALLENGE

**PERSUADING ACADEMICS TO SHARE SPACE**

One of the biggest stumbling blocks is an entrenched culture among teaching staff that equates real estate with status. Cellular offices are all but obsolete in other workplaces, but still take up vast amounts of space in academia.

Value for money is very important to fee-sensitive students, points out Abby Foster, a Partner and Sustainability Consultant at Ridge. "They don't want bright and shiny facilities that turn into white elephants," she says. "They want practical spaces that support them during their time at university."



## OPPORTUNITY

**DRILL DOWN INTO WHAT ACADEMICS REALLY NEED**

When the Open University embarked on a project to move its research-based academics into an open-plan workspace, it was down to architect Graham Blackburn to sell in the idea. "We broke the problem down into activities" he explains, "finding out what each person really needed to do their job." There were a rare few such as mathematicians who needed to work through equations on a whiteboard, but many others simply didn't need a separate area. "The danger is that you end up with lots and lots of little underused boxes, when actually we need to open our minds to new ways of handling the space we have. Times are changing – the academics of the future will have completely different expectations."

## 05

## CHALLENGE

**THE INFORMATION GAP**

You can only manage what you measure, and most universities do not gather data on how their buildings are used. When a university commissioned Ridge to carry out a feasibility study for a reuse project, a manual survey was the only option. "Our team walked around the building for a week, physically

counting the number of people using each room," says Matthew Richards. "This showed it was only used on average 52% of the time, at 15% capacity, although the university was still paying for heating and lighting because it didn't have effective management systems in place."

## OPPORTUNITY

**INVEST IN SMART TECHNOLOGIES**

Today, it is far easier to get to grips with utilisation. Smart technologies are cheaper and easier to integrate into existing buildings.

Battery-powered Bluetooth sensors on ceilings can provide a constant stream of occupancy data that identifies underused areas or unexpected patterns.

Entry and exit systems not only improve building security, but also keep a check on people's movements. Meanwhile, commercial office systems drive more efficient buildings by automating room bookings and directing people to certain floors or areas, shutting down systems when they're not needed. ■

Read more about smart lighting technologies on page 06

# SUSTAINABILITY

Like every other organisation, universities have to reach Net Zero by 2050. The difference is that they must do so under the scrutiny of one of the most demanding of all client groups. Today's students have high expectations, and a very low tolerance for greenwash.

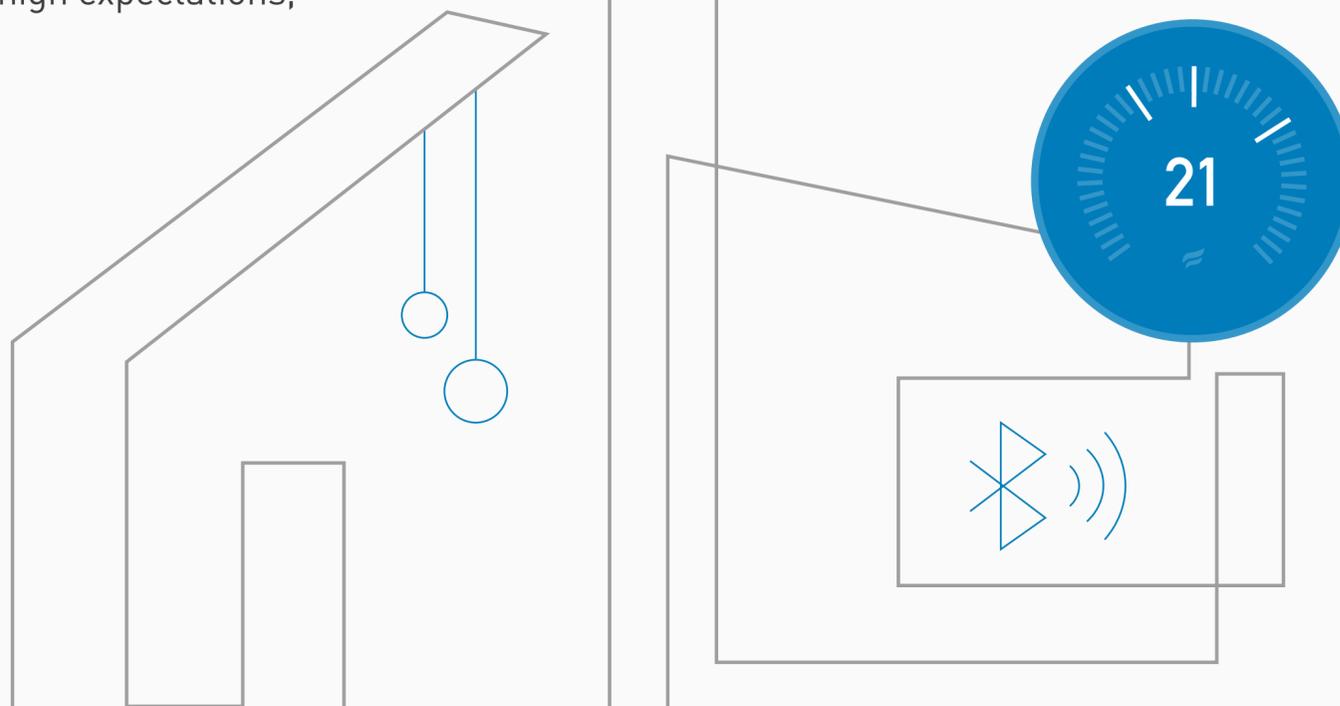
**So, what's the secret to keeping them happy?**



The generation now leaving school are much more interested in how the organisations they join are dealing with their impact on the environment. When they're choosing a university, that's an important part of the decision-making process

**Matthew Richards**

Partner | Project Management



### Boring is better than empty gestures

Installing photovoltaic panels or a wind turbine is very visible, but onsite renewables alone will not get a university to Net Zero. Young people are wise to this, so we need to show them the real work happening in the background. "Many of the things we do to use energy more efficiently are less glamorous, so we need to find ways to present that visually," says Matthew Richards, a Partner in the Architecture practice at Ridge.

That could mean setting out a clear roadmap to Net Zero and annual targets, and then publishing a progress report every year. If there are capital growth projects, environmental policies need to be a clear part of that agenda. "People can see that you've hit a milestone, or maybe even missed one. It's about being transparent and making it very easy to find." Burying the information deep in your website makes it look as if you have something to hide: "If it takes a lot of clicks, you're not being transparent enough."

### Use technology to make the link

Smart technologies can make information about energy and water visible to everyone in real time – for example, through displays mounted in building lobbies. Building certifications like WELL encourage exactly this kind of real-time monitoring and reporting, says Abby Foster, a Partner in our Sustainability Consulting team. "You can show how much water your rainwater harvesting system has saved this week, or your energy consumption at any point in time. Feeding those messages back to the student body is going to become increasingly important." Displays



could even show air quality data, such as the proportion of carbon dioxide in a room, she adds. "You don't want to panic people, but they want to know you care and that you're monitoring that for them. It's about striking a balance."

### Involve them in adaptation studies

"The physical impacts of climate change are becoming more apparent," says Abby. "Universities need to be able to deal with heatwaves and storms, and some may be susceptible to flooding, so they need to be resilient, and robust enough to deal with what's around the corner." This means carrying out a climate change risk assessment across estates. "Universities are probably better placed than most organisations to start looking at this in detail because they have students who need to carry out research as part of their courses. This is an opportunity to engage them, and it's an additional resource."

### Be prepared for tough questions

Students expect to be consulted about capital projects too – not only what is being built, but whether it's necessary. Any new construction is unavoidably carbon intensive, so be ready to answer questions about what alternatives have been considered, Abby warns. "They might ask whether there's another space within the estate that could be better utilised, or if you could refurbish an existing asset instead. Are there materials from somewhere else that could be reused or upcycled, and could the student body help with that?"

Above all, she says, identify what's important to students and tailor your approach: "If you focus in that space rather than just broad brushing it, you'll get the most value out of what you're doing." ■



## SMARTER LIGHTING

Universities spend more money and carbon on lighting than they need to, says Andrew Bissell, a Partner in our Lighting Design practice. Here are three relatively simple ways to cut the bill

### 1. Detect absence, not presence

The biggest way to save energy is just not to turn the lights on. We don't install presence sensors in classrooms any more – we make people walk to a switch, so they have to consciously decide it's too dark. Instead, we use sensors that detect absence, so as soon as everyone has left, the lights go off.

### 2. Just add Bluetooth

In the past, installing a control system for lighting required new cables, which meant a lot of trunking and a lengthy payback period. Now, we can just replace the lights themselves with Bluetooth-enabled versions, which connect wirelessly. That's made retrofitting much more feasible.

### 3. Embrace the circular economy

Manufacturing light fittings consumes a lot of raw materials, and this will become part of a university's Scope 3 carbon emissions – the carbon embodied in everything its supply chain produces. Specifying light fittings that are less material intensive, or that can be repaired, can add up to a significant reduction across a university's estate. It's not only what students want to hear, it's just the right thing to do.

[Read more about a circular economy for lighting](#)



# MASTER PLANNING

## HOW LOOKING AT THE BIGGER PICTURE CAN REINVENT A CAMPUS

Portsmouth has a vision to become the UK's top modern university by 2030. Estates team **Tahir Ahmed** and **Chris Luff** explain how a new master plan refocused around the student experience will take it there



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**Our vision is to create an environment where you feel you belong, and that you'll achieve great things from being here**

**Tahir Ahmed**  
Director of Estates  
and Campus Services



W

**What does it mean to “go” to university when you can complete a degree without leaving your room?**

This is a pressing question for the higher education sector post-Covid, as a blend of online and traditional teaching has become the new normal. Campuses that have evolved over decades must suddenly meet a whole new set of expectations, while preparing students to enter a world of work that is undergoing a parallel transformation.

**People-centric master plan**

The University of Portsmouth is responding to the challenge head-on, with a new master plan that refocuses its city-centre estate around the student experience. It is investing £250 million over a ten-year period, as part of a strategy to become the UK's top modern university by 2030.

“Buildings are more than just a facilitator for teaching, it's about how they make you feel,” explains Tahir Ahmed, Director of Estates and Campus Services. “Yes, online learning is here to stay, but ultimately we feel that students benefit from being together in the university

environment, interacting with each other and with their teachers.”

Prior to joining the university in 2022, Tahir spent 30 years in healthcare. “When you arrive at a hospital, you should feel instinctively that you're going to get well,” he says. “We're applying similar principles. Our vision is to create an environment where you feel that you belong, and that you'll achieve great things from being here.”

Like many UK universities, Portsmouth has grown rapidly with rising student numbers, to occupy an eclectic range of buildings across the city. The master plan will rationalise this disparate estate, making it more efficient, sustainable and digitally enabled, and uncovering opportunities for redevelopment. But above all, it aims to make it more people-centric, responding to the much greater priority today's students place on wellbeing and inclusivity, and giving them plenty of reasons to emerge from behind their screens into university life. >>

**Left** A new Student Hub, linking the union and the library, will expand the community and pastoral space



**A student hub at the heart of the plan**

The Portsmouth campus is reenvisioned with a central spine, connecting all of its teaching facilities and bringing them within easy walking distance. This flows into a “heart” space that will combine significantly expanded community, pastoral and support functions.

The impetus for the project was the opening of the award-winning,

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**This is a constantly changing environment, so anything we build today has to be flexible**

**Chris Luff**  
 Deputy Director of Capital and Property Estates

BREEAM Outstanding Ravelin Sports Centre in 2023, says Tahir’s colleague, Deputy Director of Capital and Property Estates Chris Luff. “That’s been incredibly successful, and prompted us to rethink the whole plan. Looking at how much the students were using the sports centre, going from there to the library next door, and back again, was a lightbulb moment.” The master plan consolidates and reinforces that activity with a new



Student Hub, adjacent to the sports centre. Today, the site is partially occupied by the student union, upstaged and underutilised since the Ravelin opened its doors. The new Student Hub will build off this structure, bridging the existing gap between the student union and the library, and adding pastoral and community space designed to the WELL building standard.

**Flexible, efficient, sustainable, intelligent**

The other strategic addition will be a new Technology building, consolidating five buildings of varying ages and character. “Utilisation is key,” says Chris. “It’s about making our assets work harder for us. Reducing space duplication and waste, assisted by modern technologies, allows buildings to become more flexible and to be shared holistically across the campus. We will have additional, better-quality space, that is more available to the students. That feeds into the overall student experience, which is fundamental to everything we do.”

Crucially, the spaces will be much less rigidly programmed than the university buildings of the past, able to accommodate different subjects and learning styles, and to adapt over time. Portsmouth already offers some cutting-edge specialisms – such as creative technologies, automotive engineering, and mission design for space exploration – and these will >>



**Left**  
 The Student Hub will provide flexible spaces for social learning

**Above**  
 To promote wellbeing, the design is guided by principles such as daylight, views of nature, nutrition and mindfulness



continue to evolve. "To be a top university, we need to build on our principles to offer the right courses and set people up for future employment," says Tahir.

And while the days of one-way "chalk and talk" lectures are over, it's much less clear what might come next, adds Chris. "This is a constantly changing environment, so anything we build today has to be flexible. That's very important from a sustainability and carbon point of view, so we haven't got to knock it down in 20 or 30 years. We need to be agile enough to respond to whatever's coming."

In practice, this means standardised building services, and floorplates with fewer fixed structural elements. "It's about infrastructure that allows you to expand or contract in different areas," says Chris. "Flexibility doesn't mean building more space, it means monitoring how it's used."

**Connected campus**

It also means creating what Tahir prefers to call "intelligent" buildings, with a mesh of sensors feeding a centralised control system. "You won't see it, but it's a really big part of what we're doing behind the scenes to manage space more efficiently," he says. This will allow the estates team to monitor environmental quality and utilisation in real time, and it will support predictive maintenance and security.



**Top**  
The heritage Wiltshire Building will be refurbished as a Student Services centre

**Above and right**  
A new Technology Building will consolidate five existing buildings, with a mesh of sensors to monitor utilisation and support predictive maintenance

Students will be able to use their phones or tablets to see how busy different spaces are, and digitally interact while learning, in order to choose the environment that suits them best. These principles will be embedded into the design of new buildings, and a parallel retrofitting programme will see the technology installed into legacy buildings as part of the refurbishment cycle.

Tahir thinks the university of the

future will be more outwardly connected too. The master plan is intended to reinforce the university's civic role, and to create new opportunities for links with local industries and the community. "Physically, you'll see a remodelled campus, and that in itself creates opportunity and encourages others to invest in the city, supporting further innovation and progression."

Creating a unified campus may be

more complex in an urban location, but he believes it's exactly that relationship that will set the Portsmouth student experience apart: being in the centre of a vibrant city, immersed in greenery, with views of the sea and the beach. "If you could take those surroundings and build a sustainable, connected campus with opportunities for social learning, why wouldn't you? We're on a win-win." ■

[Read more about the University of Portsmouth's master plan](#)



**Buildings are more than just a facilitator for teaching, it's about how they make you feel**

**Tahir Ahmed**  
Director of Estates and Campus Services



# HOW TO WIN THE RATINGS GAME

Universities are no longer judged solely on their academic performance – student satisfaction is at least as important. A student-centric makeover can transform your campus into a competitive edge



## INVEST IN PUBLIC REALM

A university's campus makes that all-important first impression, and it will be the backdrop to lasting memories and shared selfies. It's not just about the buildings: the public realm needs high-quality finishes and photogenic features like water fountains or public art. "You need to create those Instagram-moments," says Andrew Bissell, a Partner in the Lighting Design practice at Ridge. "Give the campus an identity and make it somewhere students want to be."

## NO COMPROMISE ON ACCESSIBILITY

Diversity and inclusion is second nature to Gen Z, so good accessibility is essential. If someone who uses a wheelchair finds they cannot easily move around the campus, that's not just a deal-breaker for them, it also sends a negative message to anyone who sees them struggling.



## ACTIVATE YOUR CAMPUS

Ridge is helping Aston University (right) to "activate" its campus, transforming the external areas to make them safe, welcoming and attractive. "It's about drawing people in, so it almost becomes a city within a city," says Matthew Winn, a Partner in our Project Management team. "It seems like a simple thing, but university campuses are not always designed in that way."





### DESIGN-IN SCREEN BREAKS

“The campus of the future will have a much wider range of features to allow students a bit of time away from their screens,” says Abby Foster, a Partner in our Sustainability Consulting team. “Green vistas with natural planting, water features, meandering paths, and vibrant social spaces that bring them together and combine technology and comfort. Universities have to help students strike the right balance, and students will expect it from them.”

### CREATE A COMMUNITY

The University of Portsmouth has a new master plan that creates a central spine leading to an enhanced “heart” space. “The cohorts starting university today were victims of Covid at a pivotal time, spending much of their education in isolation,” says Simon Mason, a Partner in our Architecture practice and one of the master planning team. “We need to rethink campuses to help them feel like they’re part of something bigger and reintroduce the concept of community and social engagement.”

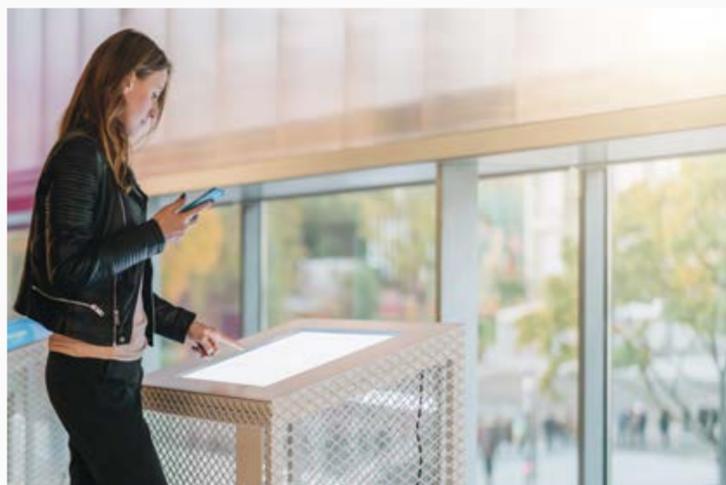


### LISTEN – BUT DON’T ACT STRAIGHT AWAY

The best way to find out what students want is to ask them. But it’s also the best way to develop a building or campus environment that’s out-of-date even before it opens. That’s why continuous engagement is a better approach than involving students in a major one-time consultation process, as that risks setting a project in stone, when it’s still five years away from being delivered,” says Matthew Winn. “We’ve got to be responsive, but build-in flexibility too, because we can’t second guess what students will want in 2030. The biggest challenge will be adapting to expectations as they change.”

### MAKE BUILDINGS RESPONSIVE

Gen Z are digital natives, using technology intuitively and expecting instant results. They want buildings that know they’re coming, and adapt. But they don’t care about features that older generations prize, such as a manned reception desk. “Even in the last four years, everything has changed,” says Matthew Winn. “They just want to go to a screen, and be told who to see and where to go.”



### SMARTER SAFETY

Clear sightlines and open, well-lit circulation are essential, but we also need to protect nature, night skies and our circadian rhythms. “Identify the routes people use most at night, or create primary safe routes and discourage or block others,” says Andrew. “Smart technology can raise light levels when people are there, and turn them off when not needed.”



### PRIORITISE HEALTH AND WELLBEING

“Mental health is particularly pertinent for universities, because it can be a scary time,” says Abby. “We need to offer students a home away from home, with everything they need to support them in the transition.” She worked with the University of Winchester to measure its flagship West Downs Centre (above) against the WELL certification criteria. It scored highly for its vegan café, refill shop and varied seating in the library, as well as a dimly lit contemplation space with cubbies where students can plug in their phones to charge and take some time out.

[Read more about our work for the University of Winchester](#)



## CONTRIBUTORS

**GRAHAM BLACKBURN**

Graham was the founding member of the Architecture team at Ridge, a team that is committed to excellence in design and has delivered many world-class projects in the UK, China, Latin America and Africa. His strong technical skills and consultative approach to strategic design have been instrumental in realising many higher education projects across the UK.  
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**SIMON MASON**

Simon leads our Architecture department in London and brings first-hand knowledge and experience of delivering high-quality, national and international projects. His work with the University of Portsmouth delivers an environment that is focused on an exceptional student experience and promotes the very best conditions for health and wellbeing.  
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**LEONARD POON**

Leonard is a Chartered Quantity Surveyor with over 20 years' experience, who heads up the Cost Management team in our London office. Over the last 18 months he has led the Ridge team, supporting the University of Portsmouth's master plan to create a modern and progressive campus for living and learning.  
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Working closely with the university sector, Matt has led many projects with a deep understanding of the importance of robust programming from both a project and strategic level to ensure programmes accurately influence and support capital plan cashflows and accounting.  
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**JACKIE FRENCH**

Jackie leads several frameworks at Ridge and manages a team of Cost Managers. She has many years of project experience under her belt, including cost and project management, cost planning and procurement for a wide range of public and private sector projects including many universities.  
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As an accredited BREEAM assessor and advisory professional, Abby assesses the sustainability of developments and has done this for several universities. She specialises in engaging with design teams and clients to ensure the principles of sustainable development are identified, understood, integrated and reviewed throughout projects to ensure that they meet with the schemes' Sustainability objectives.  
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Matthew is the Partner in charge of the Ridge Architecture team focused on education, community and leisure projects. He has developed design solutions for a wide range of projects in the education sector from primary schools to universities. Matthew has a specialist interest in sustainable design and the retrofit of our existing buildings.  
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**ANDREW BISSELL**

Andrew is a Lighting Designer who delivers solutions that focus on the visual needs of the users, applying the latest research and technology for the highest quality result. Andrew was co-author of the Society of Light and Lighting "Lighting for Education" (SLL LG5) and has worked on university, college and school projects in the UK, Denmark, Dubai, China and Australia.  
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