Building on strong foundations

Delivering a world-class university estate and experience for the benefit of our students, staff and visitors.

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University introduction

✓ A world-leading global University
✓ 34,000 students
✓ 7,000 staff
✓ We have three museums, an art gallery, botanic gardens and two concert halls, bringing cultural richness to the community
✓ 1 in 50 jobs in Birmingham depend on the University
✓ We contribute £3.5 billion to the local economy
✓ Educated more than 300,000 people across the globe
✓ Despite continued growth, we’ve achieved a 20% reduction in Carbon Emissions four years ahead of target
Celebrating success
Transforming education
Creating inspiring places

School of Engineering, opening in 2020
We’re committed to the city
Demonstrating impact, delivering social value

We are delivering regional jobs, apprenticeships and skills workshops to people living and working within the region.
Continued growth & major development

- Molecular Sciences
- Arrivals Building
- Tysley
International ambition

Dubai Phase 2, opening 2021
Birmingham Life Sciences Park

Life Sciences Park, opening 2021
Value
By 2026, the students enrolling at UoB will be younger than the iPhone.

These are students that have never experienced a world without technology and its constant connectivity to WIFI or 4G.
The challenge

To respond to these challenges and to deliver a world-class university service, it is essential that we are able to answer the plain language questions: ‘how many of these do we have, how big are they and where are they?’

At present, we struggle to answer these plain language questions.

Within the Estates Office we have more than 40+ systems, all generating huge volumes of data. Many of these systems operate a closed protocol, making it difficult to share and in some cases access information.

As a result, at times the department is highly inefficient, wasting a significant amount of time ‘hunting for data’ and information.

In some cases, when the information is finally found, many have concerns over the validity of the information.
Introducing the Intelligent Estate:

The Intelligent Estate will focus specifically on using the power of estate data and emerging technologies to ensure we get more out of our strategic assets; taking us from good to great.

Vision:
By 2026, we will have one-version of the truth for all of our estates data, enabling colleagues to answer the plain language questions, gain insights and find information quickly, accurately and completely.

Through cross-institutional partnership working, and collaboration with business and research, we will be exploring trends and correlations in our data, to advance our understanding of the relationship between user experience and the physical estate.

We will have embedded a culture of data driven decision making, resulting in a smarter performing, and more intelligent estate for the benefit of all.

To achieve this, data within the department needs to be open and easily accessible.
We will achieve this by:
To achieve this, data within the department needs to be open and easily accessible to make it easier to:

- Link
- Interpret
- Find
- and Manage information

The Result:
Optimising our estates data together with the adoption of new technologies will promote a culture of Data Driven Decision Making; resulting in a smarter performing, more intelligent Estate for the benefit of all.

Implementation of this strategy will deliver transformation of operation and service delivery, strengthening the University’s position as a world-leading Institution.
Expected outcomes:

- A smarter performing estate
- Delivering operational efficiency and sustainability of the estate
- Improving space utilisation
- Increasing user satisfaction amongst occupants leading to improved wellbeing
- Mitigating risk specifically around contractor insolvency and supply chain
- Minimising construction costs
The Urban Sciences Building (USB) at Newcastle University has been designed to improve humans understanding of the relationship between buildings and their wider environment.

As such, it is wired to more than 4,000 sensors to allow academics to see how it performs and how it interfaces with the energy, water, internet and other networks to which it is connected.

It has been designed for teaching, hosting events, laboratory research and – crucially for the university – as a facility in which to test smart technologies to promote urban sustainability.

In short, it is a living laboratory.
The building itself is monitored by thousands of smart and micro sensors, which, in tandem with connections using open internet protocols, feed the control systems that ensure optimum building operation.

The scheme was developed in BIM, and the BIM model is now helping with the operation of the building and showing the conditions recorded by each of the sensors (for real-time data, see: www.3d.usb.urbanobservatory.ac.uk).

Similar to data driven decision making, the operations team are altering the HVAC systems ramping them up or down depending on occupancy, CO₂ and temperature, to save energy.

Data is commonly accessible and open, promoting opportunities for improved building and service performance.
With two years of soft landings to run, and the building’s 4,000 sensors, there is plenty of scope to fine-tune the USB’s systems and to optimise its already impressive energy performance still further.
The Intelligent Estate

Delivering a smarter performing, more intelligent Estate for the benefit of all.