

**Specialist**

**Institutions**

with a  
**Specialism**

# World-class Buildings & Infrastructure

## Introduction

Higher education institutions are continuously striving to provide state-of-the-art facilities and world-class infrastructure with cutting-edge equipment and technology in order to meet student demand, deliver excellent research and facilitate knowledge-transfer and industry links.

This paper is the second in a series of four briefings highlighting the contribution to the higher education sector of a range of institutions that are often not featured in the national spotlight – from the highly specialised subject-specific institutions, to smaller institutions with just a few thousand students to larger institutions with a particular focus, whether delivering part-time courses or celebrating their religious roots. These papers will then be compiled into a wider report to look at the issues more broadly.

The buildings and estate of an institution, from the lecture theatres and libraries to laboratories, studios and ICT equipment, are central to a high-quality teaching and learning environment and a student's university experience. There are, however, significant costs associated with maintaining, adapting and refurbishing the existing estate and facilities and investing in new buildings and equipment, and increasing challenges of how to fund these.

The paper looks at the distinctive aspects and benefits of the equipment and buildings in a range of institutions and how these unique environments contribute to and strengthen the diversity of the higher education system in the UK.

## 1. Equipment

Equipment and facilities within many institutions are often very distinctive due to their industry-standard nature, and in turn this allows for a practice-based approach to teaching and learning linked to industry methods.

For those courses closely aligned to specific industries they are expected to be responsive to emerging industry practices. These environments provide unique resources to foster cohesion and collaboration whilst offering students a combination of academic knowledge and practical application.

This can also lead to specific opportunities and routes through to particular related industries. Students often cite the importance of provision of high-quality specialist facilities for their course as key to their experience of higher education.

*"...The BMus programme completely exceeded my expectations both academically and practically. As a pianist, I feel extremely privileged to practise on Steinway pianos every day and to have the opportunity to perform on Faziolis in the Parry Rooms."*  
**Georgina Sutton, BMus in piano,  
Royal College of Music**

Distinction and Diversity  
in Higher Education

**GuildHE**

***Celebrating the diversity of  
the higher education  
sector***

## **Briefing 2: World-Class Infrastructure**

*This is a new series of monthly briefings produced by GuildHE looking at different aspects of a diverse higher education sector.*

**January 2015**

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[Briefing 1: Student Experience and Engagement](#)

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There is an expectation that student fee income or funding council allocations can cover basic teaching and classroom provision, along with ensuring equipment and facilities are at the highest standard. However, institutions that require a heavy investment in specialist teaching and course equipment are often required to spend much more per student than other institutions.

Moreover, in these highly specialised institutions with their higher staff/student ratio, there are fewer opportunities for cross-subsidy between different academic departments.

Courses which are identified as having particularly costly teaching and equipment costs include those that are creative, land-based and health-focused. Furthermore, equipment highlighted as having significant expenditure includes:

- Agricultural machinery, including tractors (typically £100k each), combine harvesters (£200k) and seed drills
- Musical instruments such as pianos (up to £100k)
- Brain imaging technology in educational neuroscience
- Theatre systems such as lighting stock and sound equipment
- Art and design and its need for industry-standard studio workshops and photography equipment
- Broadcast and film studio equipment and audio and video recording studios
- Specialist teaching facilities e.g. dance studios and performance venues
- Advanced IT equipment and software and 3D/digital printing services

*“The wide variety of facilities within the University also allowed me to develop and learn new skills, which would only help me to progress within companies after graduating such as laser cutting, bookbinding, screen print, digital fabric print, and millinery.”*

**Jennifer Spence, graduate in BA (Hons) Fashion, Leeds College of Art**

*“Campus is great; nice gym (with student prices) on campus and a very inviting library, with lots of computer resources and more. The studio facilities in the Music Department are great; several different studios centered around the [Stanley Glasser Electronic Music Studio](#), including both an 8-channel and a 5.1 studio. Working in the multichannel studios provides a rare opportunity to prepare for the challenges one will meet in a career writing film music or music for art projects/installations”.*

**Jostein, MMus in Sonic Arts – Music, Goldsmiths, University of London**

#### **Case study – University of Worcester** Worcestershire and The Hive

The University of Worcester worked closely with Worcestershire County Council (WCC) to plan and build The Hive, Europe’s first joint university and public library, at a total cost of £60m.

Opened by Her Majesty The Queen, The Hive is an exceptional facility, with over a quarter of a million books and 12 miles of archive collections offering a rich variety of resources for both students and researchers.

Set out over five floors, The Hive is an outstanding and eye-catching addition to the Worcester cityscape, bringing together books, documents, archives, digital technology, and services from both organisations. It also houses one of the country’s largest children’s libraries, council customer services, meeting rooms, study areas, a history centre, a business centre and a cafe. The Hive is a regional hub for education, research, business, and cultural experiences, attracting people who have not traditionally enrolled in a library: to raise aspirations, and forge links between the university, people, and organisations.



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**Figure 1 The Hive, Worcester**

## Case study - Anglo-European College of Chiropractic (AECC)

Capital investment, specialist facilities and buildings and the wider community

Supporting the programmes of study at AECC, including chiropractic (5 year BSc Human Sciences/ MSc Chiropractic), necessitates a variety of high cost specialist equipment and facilities. These include:

1. **Teaching Clinic:** This represents a state of the art teaching resource with over 30 consultation and treatment rooms, seminar rooms, a specialist assessment and rehabilitation centre and a computer laboratory. It was built in 2009 at a cost of £3.2m. AECC also operates a satellite clinic based on campus at Bournemouth University extending the institution's clinical training facility.
2. **Special Imaging Centre:** In addition to digital plain film X-ray contains quantitative fluoroscopy enabling Objective Spinal Motion Imaging Assessment (OSMIA) (Figure 2) which has been the source of ground-breaking research and enhanced student experience and clinical diagnosis. In 2014 a unique open and upright MRI scanner (Figure 3) was added at a cost of £1.3m, providing further cutting-edge clinical investigations for patients and inspiration for students and clinicians.
3. **Centre for Ultrasound Studies:** This separate clinical facility for postgraduate education and training has steadily built an excellent national reputation in a range of clinical applications including musculoskeletal and gynaecology. It attracts a significant number of students across health disciplines and does not only support student learning opportunities, but also provides clinical services to the local community. This centre houses diagnostic ultrasound equipment consisting of 15 separate units with a combined worth of approximately £1m.
4. **Human Anatomy Facility:** Students on the undergraduate and postgraduate programmes learn anatomy from embalmed human specimens in the College's prosection facility. This secure facility is regulated by the Human Tissue Authority and is probably the only such facility outside of medical and dental schools within the UK.

**Figure 2 AECC - Quantitative Fluoroscopy (OSMIA) Unit**



**Figure 3 AECC - Open Upright MRI Unit**



## 2. Buildings

*The estate and high-quality facilities are central to enabling the delivery of a university's mission, with a strong link between the buildings offered at a university and the appeal of the institution to prospective students and staff.*

The HE estate in the UK is unique in its diversity as it encompasses both small, specialist institutions with little over 4000m<sup>2</sup>, and large multi-faculty universities with over half a million square metres.

The quality of buildings, facilities and the physical environment are hugely important in providing suitable settings for students to study and advance in their chosen specialisms and for providing opportunities for professional practice and research. Universities that are able to provide modern and exceptional buildings enable and support an enriching student experience.<sup>1</sup>

For highly specialised institutions the buildings and estates can act as "hubs" for activity in that particular discipline, whilst being equipped with world class, industry-standard facilities to support programmes. This makes them attractive in terms of the added value that they can offer to students, staff and their specialist industries.



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1. Association of University Directors of Estates (AUDE), survey of university facilities and the student experience (2014). URL: [http://www.aude.ac.uk/news-and-events/news/news\\_studentexperience/](http://www.aude.ac.uk/news-and-events/news/news_studentexperience/)

It is also important that the higher education sector has a range of sizes of institutions. Whilst larger institutions can create efficiencies due to economies of scale, smaller institutions are often able to be flexible and agile in terms of their estate:

- Smaller institutions can be more efficient as they have smaller bureaucracies and are thus able to adapt and innovate quickly and decisively in a changing external environment.
- Spaces can be more bespoke with purpose-built buildings which use their spaces more efficiently and are thus efficient with the capital they spend.
- Smaller institutions, and their missions, can respond in agile ways to reorganisation and reinvention.

#### **Case Study - Royal Agricultural University (RAU)**

##### Our University Farms – The ‘Outdoor Classroom’

As a specialist land based HEI, the RAU makes significant use of its own and locally available farms for the enhanced education and training of its students.

The farms are based in two locations in close proximity to the University campus. Coates Manor Farm and Harnhill Manor Farm total 491 hectares in size (1,213 acres), and offer very different farming system situations.

There is also an equine enterprise providing and demonstrating a stabling and livery facility at Fossehill Farm Equestrian Centre. All the enterprises are run on a commercial basis, and students benefit through access to their physical and live financial data for farm business planning and management projects and coursework.

The provision of specialist ‘Green Laboratory’ resources through the University farms enhances curriculum provision and ensures students are able to see first-hand the practical application of science and technology in the rural sector. This includes access to a range of farming enterprises, renewable power generation facilities, rural buildings, woodland and ecological resources and to applied research activities.

#### **Case Study - Arts University Bournemouth (AUB)**

##### The Drawing Studio

AUB have completed plans which will establish a new dedicated drawing studio on their site which is situated on the outskirts of Bournemouth and Poole. The intention at AUB is to provide students with a new space in which drawing can be taught and practised.

This project will provide a dedicated space for face-to-face teaching but also one capable of embracing contemporary technologies of digital drawing on tablets and direct to screen. The building itself is an iconic free-standing pavilion that contains a large room, supported by a service area for the model and storage territory.

The condition of the room celebrates four aspects of light – central themes in looking and drawing to include a large north-light in the studio tradition, a rear clerestory that throws a softer light back from the rear wall, a discrete and even softer light that filters from beneath the bench on the east side and, finally, a graded wash of light that comes along the curve of the entrance via the glass door. AUB believe the simplicity of the single-shell construction will allow the act of drawing to become a calm and considered activity within the lively world of a very busy creative institution.

#### **Case Study - Ravensbourne**

##### A new building to catalyse change

Ravensbourne relocated and reinvented itself by moving its entire campus in a few months from the outskirts of London to the tip of the Greenwich Peninsula on the River Thames, where it now sits in a RIBA award-winning, purpose-built building next to the O2.

The move transformed the institution, consolidating its academic specialisation around emerging trends in the creative and digital technologies. The building’s open and flexible interior spaces have driven efficiencies in the use of space, resources and people, and promoted interdisciplinary interaction among students and



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**Figure 4 The Drawing Studio, AUB**

(...Cont.) staff. As a vocationally-focused institution with strong links to the digital industries, Ravensbourne's spaces are deliberately designed to bring the academic and the commercial worlds together and have driven curricular innovation as well as commercial development. Rapid prototyping facilities and events spaces are now used by both students and companies ranging from small graduate start-ups to Mozilla.

See a short video for more information:  
<http://player.vimeo.com/video/62688386>

### 3. Efficiencies

The bar chart below shows the total (non-residential) property costs per student in full-time education (2012/13) by institutions. There are a high number of specialist institutions in the list reflecting, in part, the cost of specialist spaces, for example, performing arts institutions with theatre spaces.

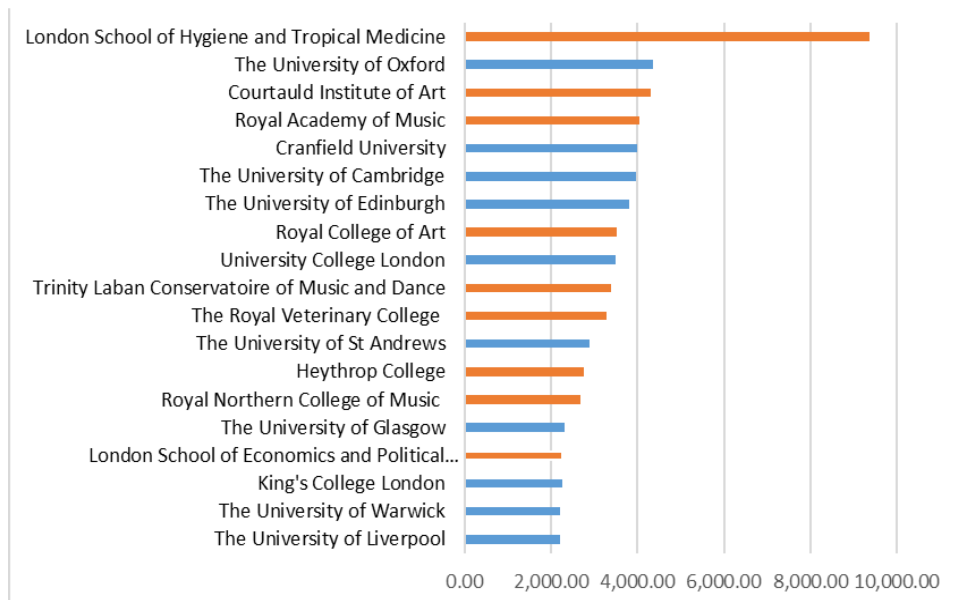
Working collaboratively with other institutions in developing the sharing of services and resources can assist institutions in making large savings. The expensive nature of equipment in some disciplines can be eased by equipment-sharing between institutions.

### 4. Why does this matter?

This briefing has highlighted that institutions across the UK are facing increasingly high capital costs, with expensive infrastructure developments and reduced funding.

There are also particular implications for smaller and more specialist institutions as the investment often represents a larger proportion of the overall budget and there is often less opportunity for them to off-set parallel activities.

**Figure 3 Total property costs (non-residential) per student in full-time education 2012/13 (Source: AUDE)**



### Case Study – Falmouth University/University of Exeter

#### New HEFCE-funded project models costs and benefits of sharing services

The shared services delivery partner of Falmouth University and the University of Exeter is starting work on an exciting new project to measure, analyse and model the costs and benefits of collaboration between UK higher education institutions.

Falmouth Exeter Plus provides a broad range of services on the Falmouth Campus and on the shared Penryn Campus in Cornwall. These range from library and academic skills, information technology and student support to estates, accommodation and all retail services. Falmouth Exeter Plus is owned jointly by the two universities and has its own senior management team and staff, who work closely with the two partners and the joint Falmouth Exeter student union.

The project, which is sponsored by the Higher Education Funding Council for England (HEFCE), will draw on the experiences of Falmouth Exeter Plus to analyse the costs and benefits of sharing services. It will also develop an interactive model that will allow other higher education institutions to explore the potential benefits that such an arrangement, or variations of it, could yield.



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