

Perform » Reward » Celebrate

 **CIBSE** BUILDING  
PERFORMANCE  
AWARDS 2018

# WINNERS' BROCHURE

[cibse.org/BPA](http://cibse.org/BPA)

In association  
with:

**CIBSE**  
JOURNAL

Headline  
sponsor:

 CR remeha

 ANDREWS  
WATER TREATERS

 POTTERTON  
COMMERCIAL

 PACKAGED  
PLANT  
SOLUTIONS



COMMERCIAL SOLUTIONS FROM BAXI HEATING

Outstanding contribution to the design or refurbishment of buildings to meet client expectations of performance, including occupant satisfaction, comfort and energy performance throughout the operating life.

WINNER:  
BDP

# BDP.

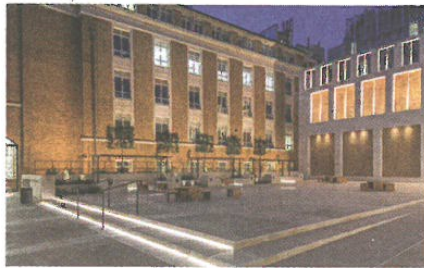


Founded in 1961 BDP is one of Europe's foremost multi-specialist design practices and has always

put collaboration at the centre of everything it does. Its founding ethos is that the best buildings are created when clients, consultants, users and contractors work together from the start of the design process.

At the centre of the BDP philosophy is the delivery of holistic, sustainable design through collaborative, interdisciplinary working. Understanding how buildings perform is critical to this, so BDP conducts post-occupancy evaluation of all its projects. It is a vocal advocate of Soft Landings, and has developed internal processes that incorporate the Soft Landings approach from the inception of a project. It has begun to implement the WELL standard, which explores how design, operations and behaviour can be optimised to advance human health and wellbeing in the places we live, work, learn and play.

BDP designed the first BREEAM Excellent school over a decade ago and the first BREEAM Outstanding office in London. The Enterprise Centre at the University of East Anglia in Norwich (Project of the Year – Commercial / Industrial winner, see page 31) has achieved both Passivhaus certification and BREEAM Outstanding, and is the subject of ongoing post-occupancy evaluation. They worked closely with the University Estates sector, developing a Sustainability Toolkit for the Association of University Directors of Estates to help assess and report the legacy of the 1960s and 1970s university estate buildings, incorporating best practice guidelines on the sustainability whole-life cost and performance of these buildings.



### JUDGES' COMMENTS

“BDP are on another level, with such a great range of things that they are doing. Some of the initiatives they showed really stood out as innovative and put them ahead of the other entries.”

BDP says: “Our focus is always on making sure the occupants get the best from their spaces; designing for simplicity of operation, ease of control, minimal maintenance, low embodied carbon, generally creating spaces that are light, airy, quiet and comfortable is our goal.”

BDP has also been among the early adopters of BIM in the UK and has been engaged in the implementation of the government BIM strategy since its inception. Through its involvement at the leading edge of BIM development for more than a decade, it has been able to develop fully defined processes to make best value of the data that is created during whole building lifecycle.

### FINALISTS:

- Couch Perry Wilkes
- Hoare Lea
- Red Engineering Design
- TÜV SÜD Real Estate

Sponsored by:



Recognising the new build or refurbishment of a commercial or industrial building that most effectively demonstrates high levels of user satisfaction and comfort whilst delivering outstanding measured building performance.



**WINNER:**  
**The Enterprise Centre - Architype / BDP**

**ARCHITYPE** **BDP.**



The Enterprise Centre is the most recent addition to the University of East Anglia campus; a ground-breaking project showcasing genuinely low-carbon architecture and materiality that achieves the client's aspiration of Passivhaus, BREEM Outstanding, and a 100-year performance lifecycle.

The design reflects an ambitious vision to create a high quality and truly sustainable building for people, the environment and the economy. The judges were really impressed with this ambitious goal of setting out to achieve a really good building that would perform very well. The centre provides dedicated space for small businesses, including open-plan offices, support workshops, networking spaces, and incubation-hatchery space to support and develop start-up organisations.

A key part of the brief was to design a working environment that focused on the health and wellbeing of the building's users. The Passivhaus strategy, combined with the natural materials used within the building, provides a low-energy, comfortable, non-toxic internal environment for the businesses that occupy the centre.

To support the occupation of this innovative building, the client opted for a Soft Landings process that started at the inception stage and ran for three years after completion in June 2015.

A high proportion of the materials for the building are sourced from within 30 miles of the site. This includes the vast timber glulam that support the canopy and 70% of the stud-work which is from Thetford Forest. The iconic thatch façade came from the Norfolk Broads, as did the reed for the internal reed board coverings.

Sponsored by:





**PROJECT ADDRESS:** University Drive, University of East Anglia, Norwich NR4 7TJ

**PROJECT TEAM:**

**Building Services Engineer:** BDP  
**Building Owners:** Adapt Low Carbon Group / The University of East Anglia  
**Project Manager:** 3PM  
**Quantity Surveyor:** Capita  
**Architect:** Architype  
**Interior Designer:** Architype  
**Mechanical/Electrical Engineer:** BDP  
**Contractor:** Morgan Sindall

Examples of optimisation to reduce the building’s embodied carbon include low-carbon thermal mass exposed in the slab, as well as the use of bio-based materials and recycled materials.

A key objective was to have every internal space benefiting from a natural light strategy as much as possible. The challenge was to create this without causing the building to overheat during the summer months. The robust shading strategy is designed to prevent overheating, with features such as the brise soleil on the southern facing elevations and thatch overhangs.

A low energy, task-focused LED lighting scheme provides illumination only where required, fittings are daylight dimmed and intelligent controls ensure lights switch off when spaces are unoccupied.

A mixed mode ventilation approach with variable air volume demand control provides fresh air ventilation. Building users can also open windows and vent panels.

Night cooling strategies combine with the thermal mass of the polished concrete ground slab and fermacell partitions to ensure spaces do not exceed 28°C for more than 1% of the occupied hours. The lecture theatre has an air handling unit integrated heat pump to offer peak loop cooling in the summer although this is rarely required.

Power and data is distributed around the perimeter feeding desk modules which are located in the furniture. Although the Passivhaus approach means heat demand is minimal, occupied rooms are provided with a small

**JUDGES’ COMMENTS**

“The Enterprise Centre had the best energy performance of the entries in this category. Aspirations were very high and they delivered, following an exemplary process including post-occupancy monitoring. This is an outstanding building and a game changer.”

**HIGHLY COMMENDED:**

- David Attenborough Building (Cambridge Conservation Initiative offices) - BuroHappold Engineering

**FINALISTS:**

- 350 Euston Road HVAC Refurbishment - Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A
- Wellcome Wolfson Institute for Experimental Medicine (WWIEM) – WYG

radiator and TRV. Heating is provided by a district heating connection from the campus wide infrastructure.

Standing heat losses from the hot water system are minimised by super insulation and reducing distribution pipework where possible, including the use of micro bore to reduce standing losses from un-circulating water volume. Hot water outlets remote from the DHM heat exchanger unit are served by local electric water heaters controlled by time switches.

In the first year of operation the building consumed 103 kWh/m<sup>2</sup>/annum in primary energy, well below the stringent 120 kWh/m<sup>2</sup>/annum Primary Energy target for Passivhaus and just below the predicted 111 kWh/m<sup>2</sup>/annum design stage figure. Independent Post Occupancy Evaluation in the third year of operation identified improved energy consumption figures with a total of 19.2 kCO<sub>2</sub>/m<sup>2</sup>/annum (GIA) emissions. This equates to 45 kWh/m<sup>2</sup>/annum (thermal and electric) demand and Primary Energy Demand of 87.36 kWh/m<sup>2</sup>/annum (excluding any reductions from renewables).

The judges were impressed with the Soft Landings process that started at the inception stage and would run for a full three years after Practical Completion. This demonstrates their commitment to optimising the buildings potential and their involvement throughout design and delivery to produce a building that is universally understood by its users. The Enterprise Centre is currently undergoing a 3-year post occupancy research programme into energy use and comfort levels.