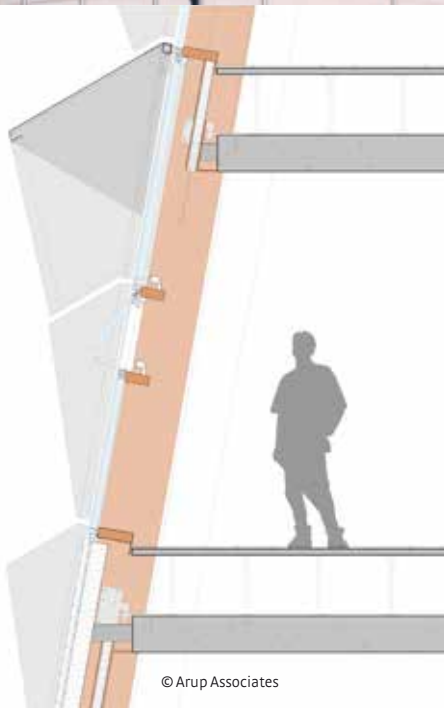


# PRESS REPORT

## Coventry University (UK) Faculty of Engineering and Computing

Editor  
Klaus Sikora Kommunikation

Issued by  
MIN Metallverarbeitung Neustadt (D)



© Arup Associates

*Issued by*

MN Metallverarbeitung  
Neustadt GmbH  
Industrieweg 34  
23730 Neustadt  
Germany  
www.mn-metall.de

*Editor*

Klaus Sikora Kommunikation  
Hauptstraße 10  
59269 Beckum  
Germany  
info@klaussikora.com

*Photos*

Klaus Sikora  
© Klaus Sikora / MN  
Licence free for press articles  
and product reports

*Drawings*

Arup Associates  
8 Fitzroy Street  
London W1T 4BJ  
United Kingdom  
info@arupassociates.com  
www.arupassociates.com

---

## Architecture for the Curious

**Competition between universities in the United Kingdom is keen. Students have evolved over recent decades more and more to ‘paying customers’, and today they place higher demands than ever before on the quality of their academic training, the content delivered and methods used, as on the services made available to them and the spatial conditions that define their learning environment. The recently opened new faculty building at Coventry University shows how architecture can make a significant contribution in the ever more competitive bid for young academics.**

### *The City and Science*

Coventry has a tradition of forward thinking. The old cathedral, the best known monument to the history of a city that was almost entirely destroyed by aerial bombing in the Second World War, has stood for decades as a symbol of the town’s forward-looking spirit. The ruins of the old Cathedral were deliberately left standing alongside the newly constructed building not as a symbolic recrimination of the former enemy, but rather as a sign of reconciliation and of a shared new beginning, ideals the city has consistently expressed in the post-war period in its intense and widely recognized efforts to promote town twinning arrangements and European integration. Third-level education has always been an important factor in the viability and sustainability of the region, and today the town boasts two universities: the University of Warwick, located southwest of town, and Coventry University, whose campus is just east of the city centre. The significance of these two universities for the region has considerably grown since the decline of the automotive and engine construction industry. Once known for its high concentration of manufacturing facilities almost exclusively focused on the automobile sector, Coventry has today become a recognized centre of research science for a wide range of industries that includes, but is by no means limited to the recent renewal of industrial growth in the region. A major driving force of the intense links between corporate development and Coventry University especially has been the painstaking care for business-focused education and research. A win-win situation for all: The University offers gifted students and researchers interesting projects, industry benefits from valuable research results and can recruit science specialists from courses that have been specially designed to meet its practical needs.

The view through the former eastern portal of the old cathedral across Priory Street to the university campus is interesting both historically and from a town planning perspective. As the eye wanders past the Allan Berry Building and other building ensembles, some of them cut off from one another by major roads, one can clearly sense the history of a still young university that continues to grow out from the city centre. The most notable landmark at the eastern edge of the city precinct is the Frederick Lanchester Library, which was realized by Short & Associates just before the turn of the century. The Library, with its strikingly offset little towers, has to date served as a demarcation line to the campus. Right next to the Library to the south, however, the latest future-looking university building has now gone into service.

### *Faculty for Innovation*

The uncompromising design of the new home for the Faculty of Engineering and Computing is an unmistakable statement both about the building's purpose and its significance for the University and for the City of Coventry itself. Two L shaped buildings clasp around a perfectly square ground plan and are connected at the entrance area in the south-eastern corner by a glass atrium. The separating gap at the diagonally opposite corner opens the inner courtyard to face the campus and at the same time defines the direct view between atrium and city centre. The smaller building of one to four stories in height, known for its turfed flat roof as the 'Nature Block', clearly forms an integral part of the entire ensemble, making use of the same structures and material language, whilst at the same time pointing to its four to seven storied neighbour and the highly creative achievement it incorporates. In keeping with the overall building skin, so too the complete surface of the façade of the Science Block consists of anodized sheet aluminium. The design's unique three-dimensional use of forms placed very high demands on the technical realization of the building, and made the façade decidedly the most demanding element in the entire project.

### *The façade design: robust detail solutions*

The especially slim and deep profile structure required of the individual 'saw-tooth'-like forming of the aluminium panels placed in itself the highest demands on the industrial prefabrication process. This, combined with the planned façade structure of overlapping hexagonal combs and alternately tilted façade surfaces, resulted in an even more complex challenge for preplanning and prefabrication that required extraordinary levels of material optimization, calculation accuracy and processing technology. After determination of the areas and the optimal structuring, the almost 3,400 m<sup>2</sup> of façade were divided into around 2,400 individual sheets. Planning the various different diagonal cuts for the profiled panels required particularly elaborate IT drawings prepared with a lot of computing power to ensure the open sweep of the profile across the entire surface of the skin of the building. Special equipment was developed for the complex diagonal cuts and helped optimize the already complicated manufacturing processes, which can now handle all conceivable cutting directions and façade inclinations. In order to ensure the highest standards of quality assurance, the components were only anodized after being cut and systematically arranged ready-for-installation.

The play of profiled aluminium skin, alveolate surface structure, irregularly ordered hexagonal glazing with aluminium hoods that act as shadowing elements and alternately inwardly and outwardly inclined surfaces give the three-dimensional façade a unique technical aesthetic reminiscent of computer circuit boards (the term "computer architecture" comes to mind), and of the computer-based activities that take place within. Sitting in the inner courtyard, one might imagine oneself transported to the scenery of a science fiction film in which tomorrow's technological developments are concocted, or have already been realized today. The entire building is architecture for the curious; an abstract, distorted use of forms combined with part-open glazing elements that promote a thirst for learning and allow informative insights.

### *Building as study object*

The interior reiterates the powerful invitation implicit in the external design to see the building as a model and an example of the technological abilities that are to be learnt and further developed by its occupants. The reduced use of materials and covering elements emphasizes the open structure: All steel columns and supports of the structure are stamped in big, colourful characters with their load-capacity values; open supply lines make for transparency of the building technology; roughly hewed concrete walls allow students to directly visually experience material qualities and ageing. The especially developed building

management system constantly relays key data such as energy consumption and local temperatures on a display in the lobby, and since students have free access to the technological supply facilities, they can learn to appreciate the efficiency of the solar energy plants on the roof and the operation of the biomass and gas heating boilers in the basement.

*Concept for practice-related science*

Arup Associates conceived the entire building in a series of workshops held jointly with the university in view of modern interactive learning processes in connection with and actually within the building itself, of course taking into account ultra-modern communication technologies. The open structure of the three central stories, visually underscored by staggered floor breakthroughs, creates ideal conditions for interdisciplinary work between departments, and workspaces in these areas can be freely arranged to meet different needs. More intimate study areas, lecture rooms and rooms for scientifically qualified employees and administration staff are located in the upper two floors and the outer marginal areas. The workshops in the two basement levels house state-of-the-art equipment that will arouse the interest not just of students: Flight simulators, a complete flight supervision station, a Harrier vertical takeoff jet, a hi-tech climatic chamber, one of the most powerful cryomagnets in Europe. Particularly the vehicle engines and chassis, undercarriage simulators and jet engine test beds, prototypes for racing vehicles, and the state-of-the-art wind tunnel test installation sponsored by a well-known racing team underscore the connections the University continues to maintain to the motor industry, a sector which, alongside a wide variety of other industry segments, is set to draw immense benefits from the excellent research and teaching conditions in the new faculty building.

The place value of British universities is documented in black and white ahead of matriculation deadlines when the press announces its „top ten“ educational institutions, adjudicated according to a variety of different criteria. The signs are that Coventry University will score well with the excellent opportunities on offer in the new building of the Faculty of Engineering and Computing.

**Project information:** Coventry University (UK)  
Faculty of Engineering and Computing

**Edited by:** Klaus Sikora Kommunikation

**Photography:** Klaus Sikora

**Drawings:** © Arup Associates

## **Project Partners:**

**Client:** Coventry University

**Architecture & Planning:** Arup Associates, London

**General contractor:** Vinci S.A., Rueil-Malmaison (F)

**Planning and prefabrication  
of the building skin:** MN Metallverarbeitung Neustadt GmbH

## **Structure:**

**Construction:** Frame construction

**Materials:** Steel / Aluminium

## **Façade:**

**Material:** welltec® System Aluminium Panels  
Profile SP3G-50/60 R-115

**Substructure:** wood / metal

## **Construction data:**

**Floor space:** 15,000 m<sup>2</sup>

**Construction costs:** £ 55 million (approx. € 66 million)

**Completion:** December 2012

**Opening:** March 2013

## **Copyrights:**

All drawings © Arup Associates

All photos © Klaus Sikora / MN Metallverarbeitung Neustadt



CUEB\_610 *View West 1*



CUEB\_M114 *View West 2*



CUEB\_M109 *View South 1*



CUEB\_M116 *View South 2*



CUEB\_M152 *View View Southeast 1*



CUEB\_M160 *View Southeast 2*





CUEB\_M133 Foyer View First Floor



CUEB\_M175 View Southwest 1



CUEB\_622 view west 2



CUEB\_634 view south 3



CUEB\_M106 view southeast 3



CUEB\_M121 view southwest 2



CUEB\_M123 view southwest 3



CUEB\_M141 view foyer south



CUEB\_M142 inside view



CUEB\_M150 view southeast 4



CUEB\_M158 view south 4



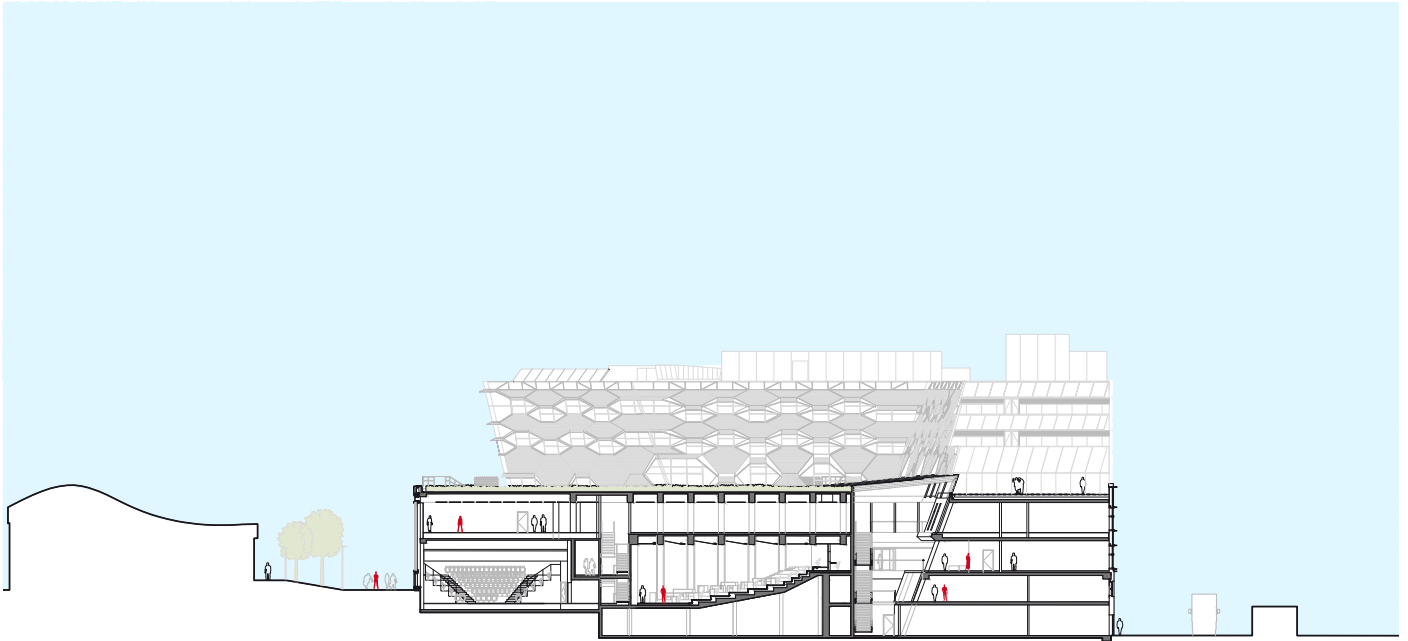
CUEB\_M159 view southeast 5



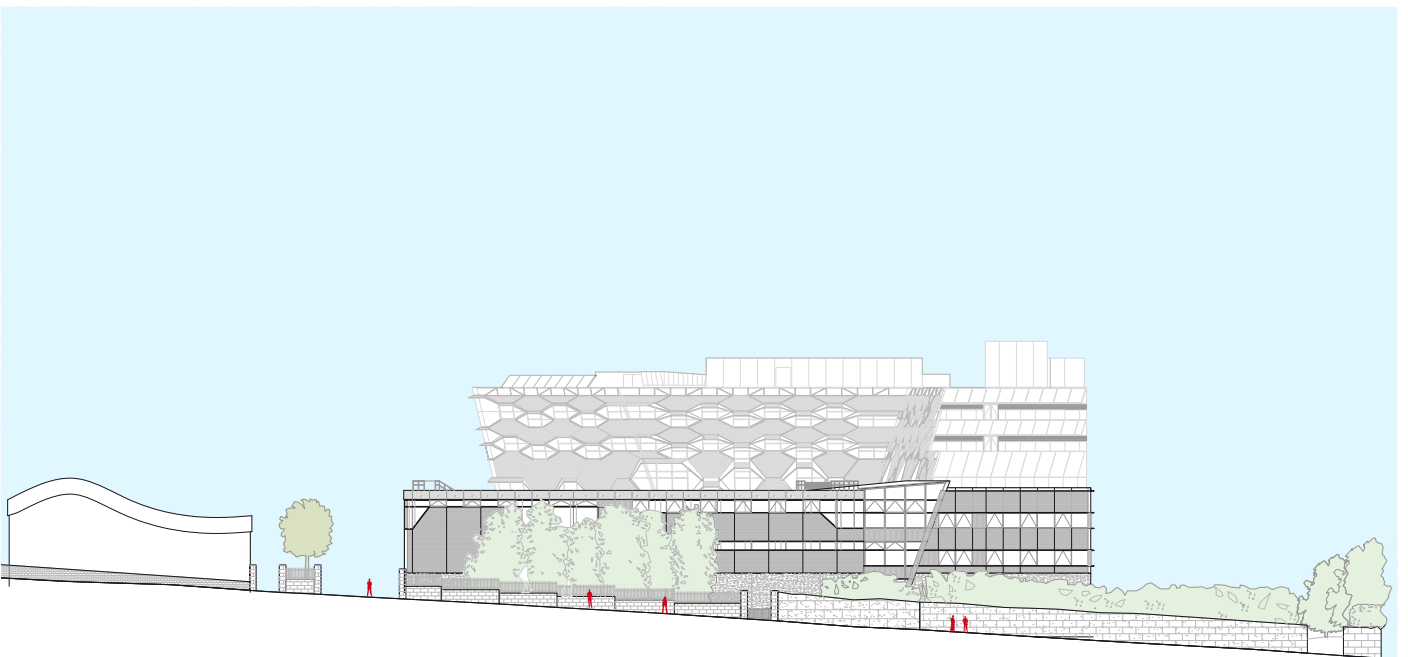
CUEB\_M168 view west 3



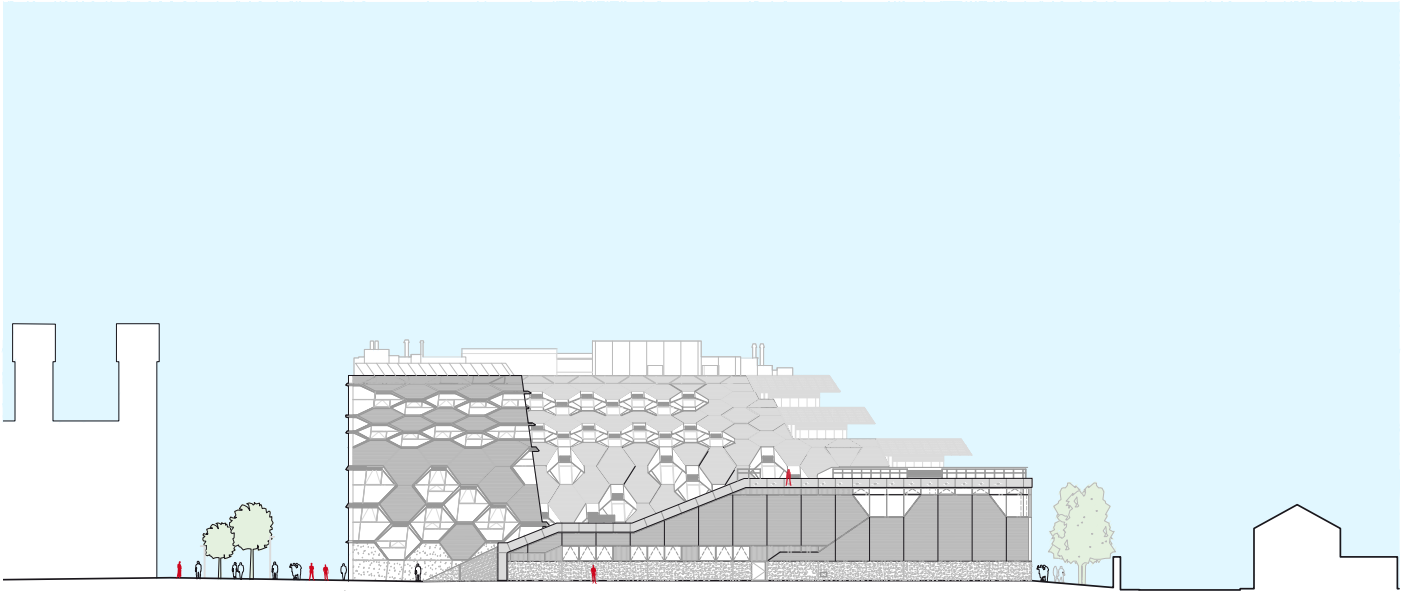
CUEB\_M171 view west 4



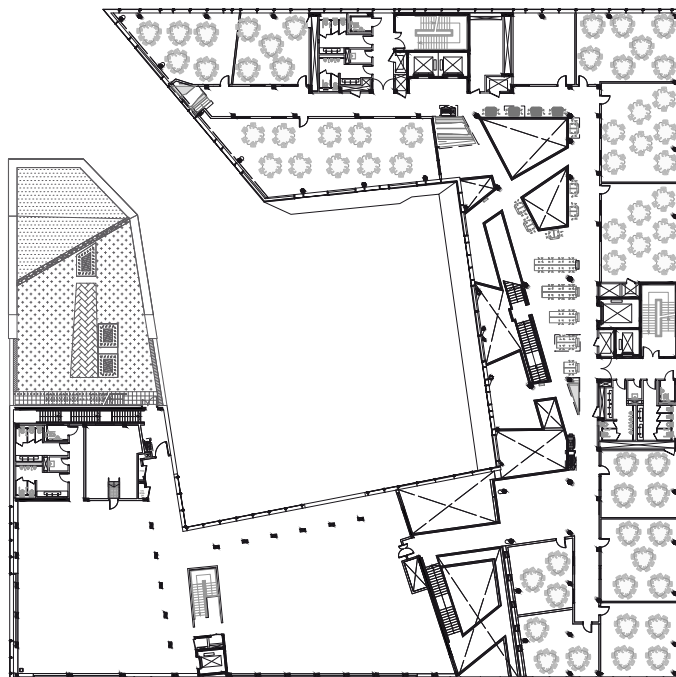
E-W Section  
© ARUP ASSOCIATES



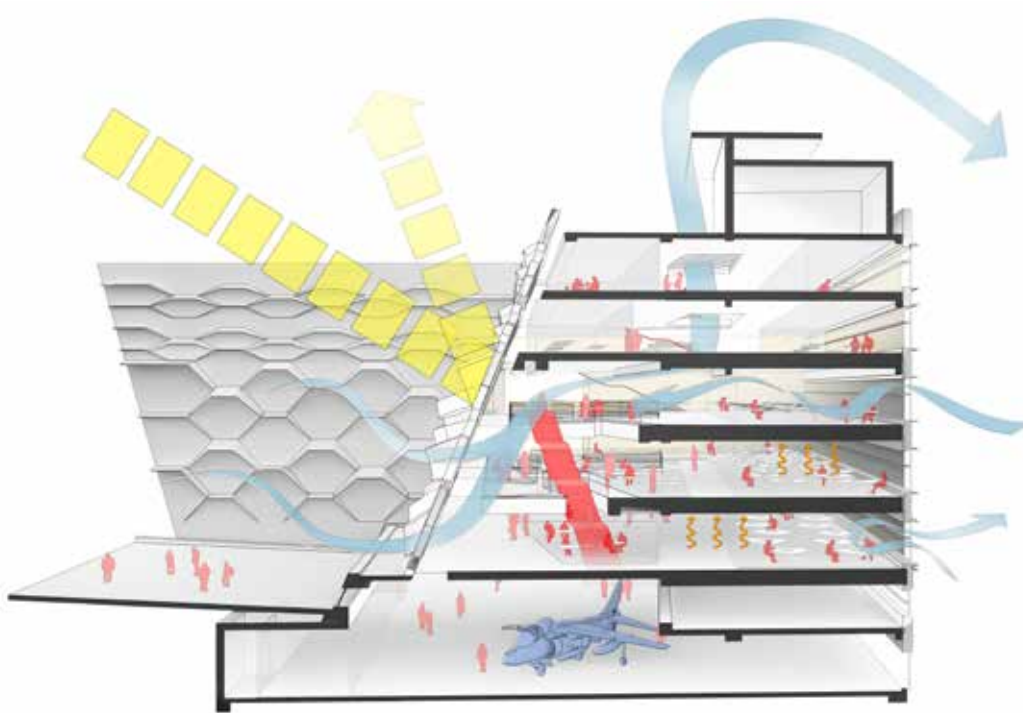
Elevation South  
© ARUP ASSOCIATES



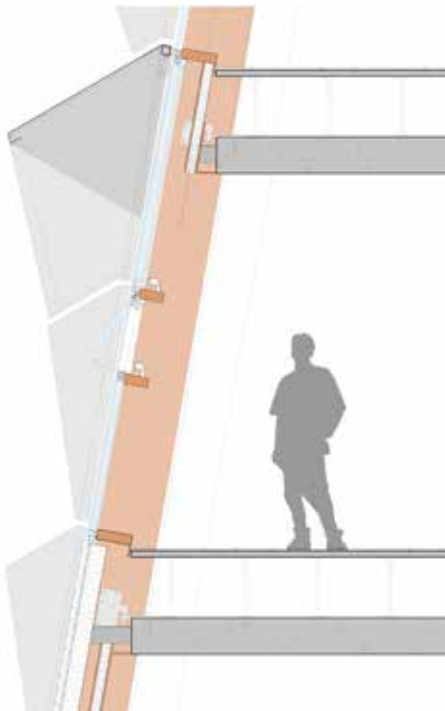
Elevation West  
© ARUP ASSOCIATES



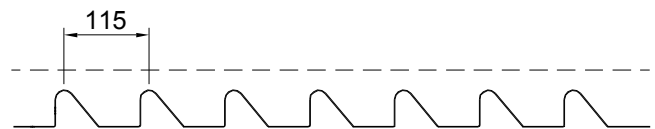
First Floor Plan  
© ARUP ASSOCIATES



Section E-W  
© ARUP ASSOCIATES



Detail 1  
© ARUP ASSOCIATES



MN welltec® profile SP3G-50/60 R-115