



Newcastle University.

Integrated projection and LED solutions for a collaborative engineering hub

Newcastle University's £110 million redevelopment of the Stephenson Building has transformed one of the UK's leading engineering facilities into a modern hub for teaching, research and collaboration. Bringing together disciplines previously spread across multiple campus locations, the building provides flexible learning spaces, specialist laboratories and collaborative teaching environments within a single facility.

Delivered in two phases, the project introduced advanced AV solutions to support modern teaching and

communication. Phase one equipped lecture theatres, collaborative spaces and IT clusters with laser projection and display technology, while phase two added a large format LED display in the central atrium, creating a focal point for communication and events.

The project was delivered through a long-standing partnership between Newcastle University, Universal AV and Sharp/NEC, building on the university's existing campus-wide deployment of NEC visual solutions.

The Challenge.

The redevelopment aimed to consolidate the engineering faculty into one building while supporting new teaching models centred on collaboration, discussion and small-group learning. This included a mix of spaces such as collaborative lecture theatres, IT cluster rooms and flexible teaching environments designed for blended learning.

A key requirement was to ensure clear visibility of teaching content in group-based learning spaces, regardless of seating position. The solution also needed to integrate with existing campus AV systems while meeting expectations for reliability, long lifecycles and energy efficiency.



The Solution.

Phase One – 360-degree teaching and learning

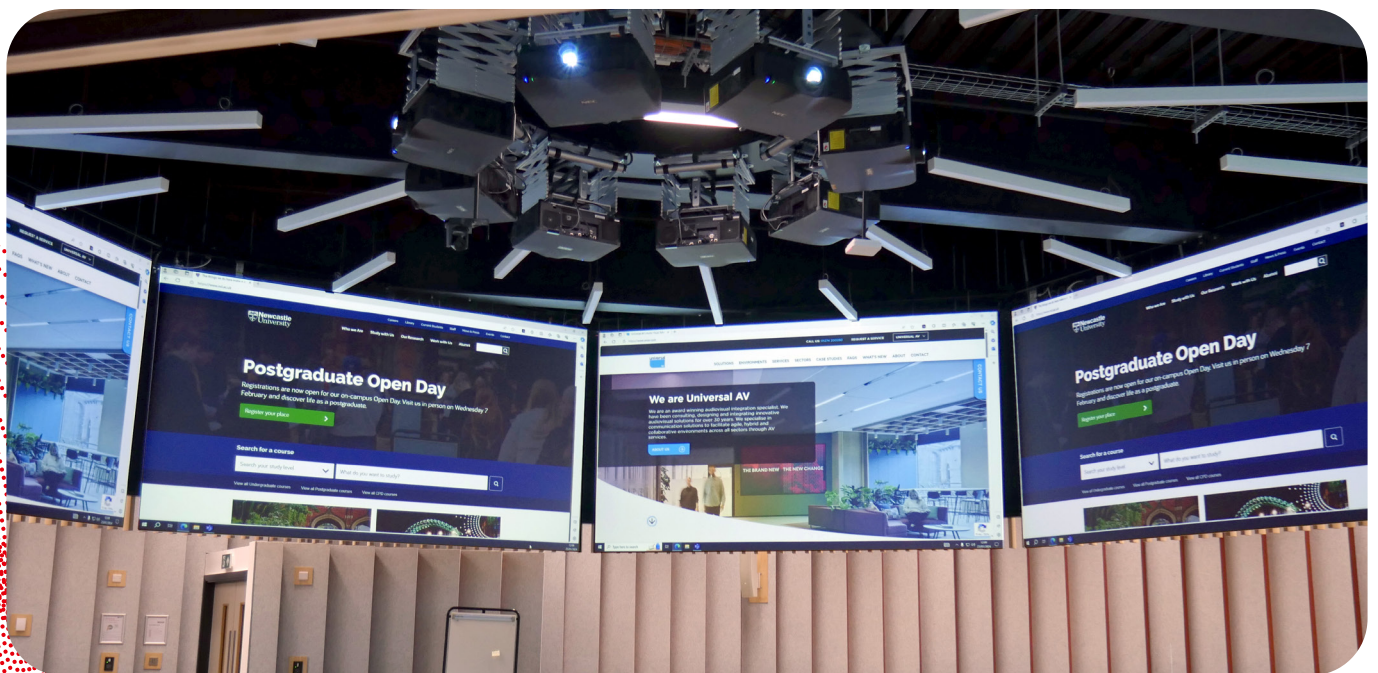
Phase one employed Sharp/NEC laser projection across the building's teaching environments, delivering high brightness, long-life performance and low maintenance.

The most complex installation was the main collaborative lecture theatre, designed 'in the round.' Here, the lecturer stands centrally while students sit at group tables arranged around the space. To ensure clear visibility from all angles, eight Sharp/NEC PA1004UL laser projectors are mounted on a circular rig, projecting onto eight four metre wraparound screens.

The rig, known as the 'doughnut,' features ceiling lift mechanisms that allow each projector to be lowered individually for maintenance, reducing access requirements and minimising downtime.

Signal distribution is handled via BluStream HDBaseT extenders, with duplicated inputs providing redundancy in case of signal failure. Control is delivered through Q-SYS, with two lecterns enabling teaching from either the centre or the front of the room.

Additional lecture theatres use Sharp/NEC PA and P Series laser projectors paired with fixed-frame screens. IT cluster rooms are equipped with NEC P605UL and PV710UL projectors to suit varying throw distances, while meeting rooms and smaller teaching spaces feature NEC large format displays with wireless presentation and integrated conferencing.



The Solution.

Phase Two – Creating a visual centrepiece

Phase two extended AV into the building’s central atrium, a key circulation and social space linking the original structure.

A six-by-three metre Sharp E Series 2.5mm pixel pitch LED surface (2,400 x 1,215 resolution) was installed as a focal point. It was chosen over a traditional video wall for its longer lifespan, lower power consumption and reduced maintenance.

The display was carefully sized to fit within the glazed aperture of the original building facade, with structural considerations around height and weight forming a key part of the design process. The result is a seamless installation that complements the architecture while delivering real visual impact.

Integrated with the university’s campus messaging platform, the display runs a dedicated engineering channel for targeted content. It is also used during open days and events, with presentations delivered on the atrium’s ‘living stairs,’ and in the social spaces overlooking the atrium.



The Result.

The redevelopment of the Stephenson Building has created a centralised engineering hub that supports collaborative teaching, research and student engagement.

AV systems play a key role, delivering reliable projection and display solutions that enable both traditional and collaborative learning approaches. Students benefit from purpose-built lecture spaces, flexible teaching environments and shared IT clusters designed for large cohorts.

The atrium LED display provides a central platform for communication while reinforcing the building’s identity as the home of engineering at Newcastle University.

“The result in the collaborative lecture theatre is amazing to see,” says Colin Fahey, AV Manager at Newcastle University. “We knew these spaces would be challenging, which is why we tendered this project early.” Its success highlights what can be achieved when the university, AV partner and technology provider work together from the early stages of the project.

The project also demonstrates the value of established partnerships built on trust and technical expertise.

“Working with Universal AV on the School of Engineering has been an absolute delight,” says Antoni Guidi of Sharp. “The high quality installation showcased our cutting-edge LED and projection technologies at their very best.”



The atrium was always intended to be the heart of the building. By choosing LED for the main display, we have created a focal point that is both practical and inspiring for students, staff and visitors.”

Colin Fahey,
AV Manager at Newcastle University.



Site information.

Sector

Higher Education

Customer information

Newcastle University

www.ncl.ac.uk

Integration partner

Universal AV

www.uniav.com

Installation date

Phase one installed Summer 2023

Phase two installed Summer 2024



universalav

Display Equipment

90 x LED-E025i 2.5mm pixel pitch modules, in a 10 (W) x 9 (H) configuration.

Various quantities of display and projection across classrooms, meeting spaces and lecture theatres:

MultiSync ME551 55-inch large format displays,

MultiSync ME651 65-inch large format displays

MultiSync M751 75-inch large format displays

MultiSync M861 86-inch large format displays

MultiSync M981 98-inch large format displays

MultiSync UN552V 55-inch ultra narrow bezel video wall displays

SDM-HDBT slot-in modules

P627UL laser projectors

P605UL laser projectors

PV710UL laser projectors

16 x PA804UL laser projectors

8 x PA1004UL laser projectors for the 'in the round' lecture theatre

NP40ZL zoom lenses

NP41ZL zoom lenses

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