



GVAV Case Study

Cardiff University

Queen's Engineering



A new modern collaborative learning facility in Cardiff University's Queen's Buildings, ENGIN C/2.04 and C/2.07 have undergone a complete regeneration including scalable AVoIP systems and more than 20 displays.

Alongside the Schools of Computer Science and Physics and Astronomy, Cardiff University's School of Engineering is housed inside the Grade II listed Queen's Buildings, a Gothic Revival University building on Newport Road that was intended as, but never completed as a quadrangle.

This century-old structure has been modified and extended since its completion yet retains much of its original interior aesthetic throughout its four linked wings. However many spaces are now being upgraded with the latest audio visual technology to provide more class-leading learning spaces for students.

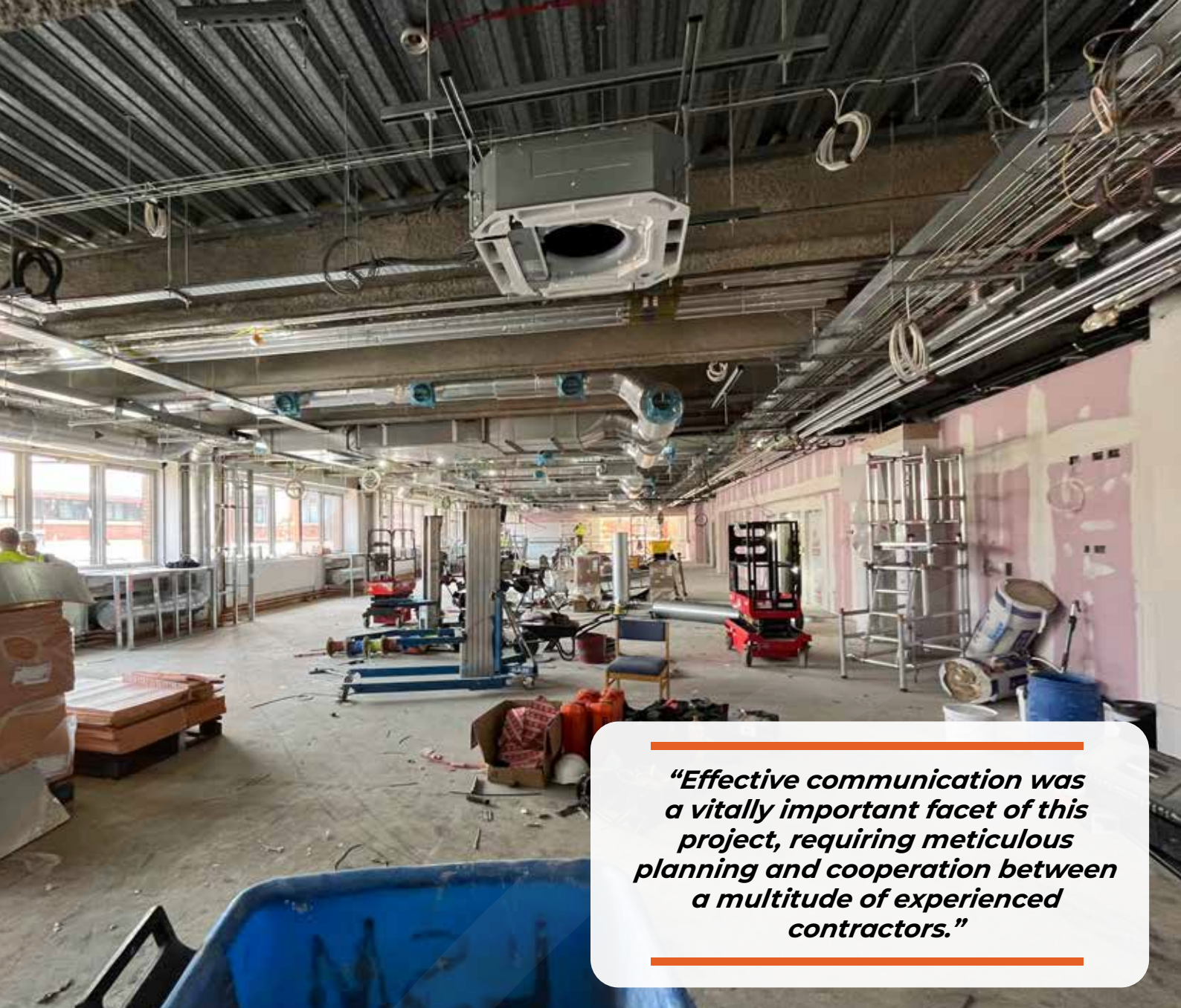
Across two rooms in the West Wing of the building, the University identified a requirement to create a new facility for its School of Engineering, bringing students together in a shared collaborative space that could also be used as a traditional teaching area. Continuing a long and supportive relationship with the University spanning many years, **GVAV** were selected as the successful integrator after tendering for this project working under main contractor John Weaver.

This new, modern facility needed to incorporate flexible and scalable connectivity options, allowing staff and students to share content to different displays within the new spaces. The original plans for both rooms were conceptualised by the University and AV consultant Drama By Design with usability, collaboration and continuity in mind throughout the suite. Changes brought about in the construction phase and logistical challenges meant that all parties had to work together to adapt the plans to ensure that a system was delivered that still met and exceeded the client's expectations.

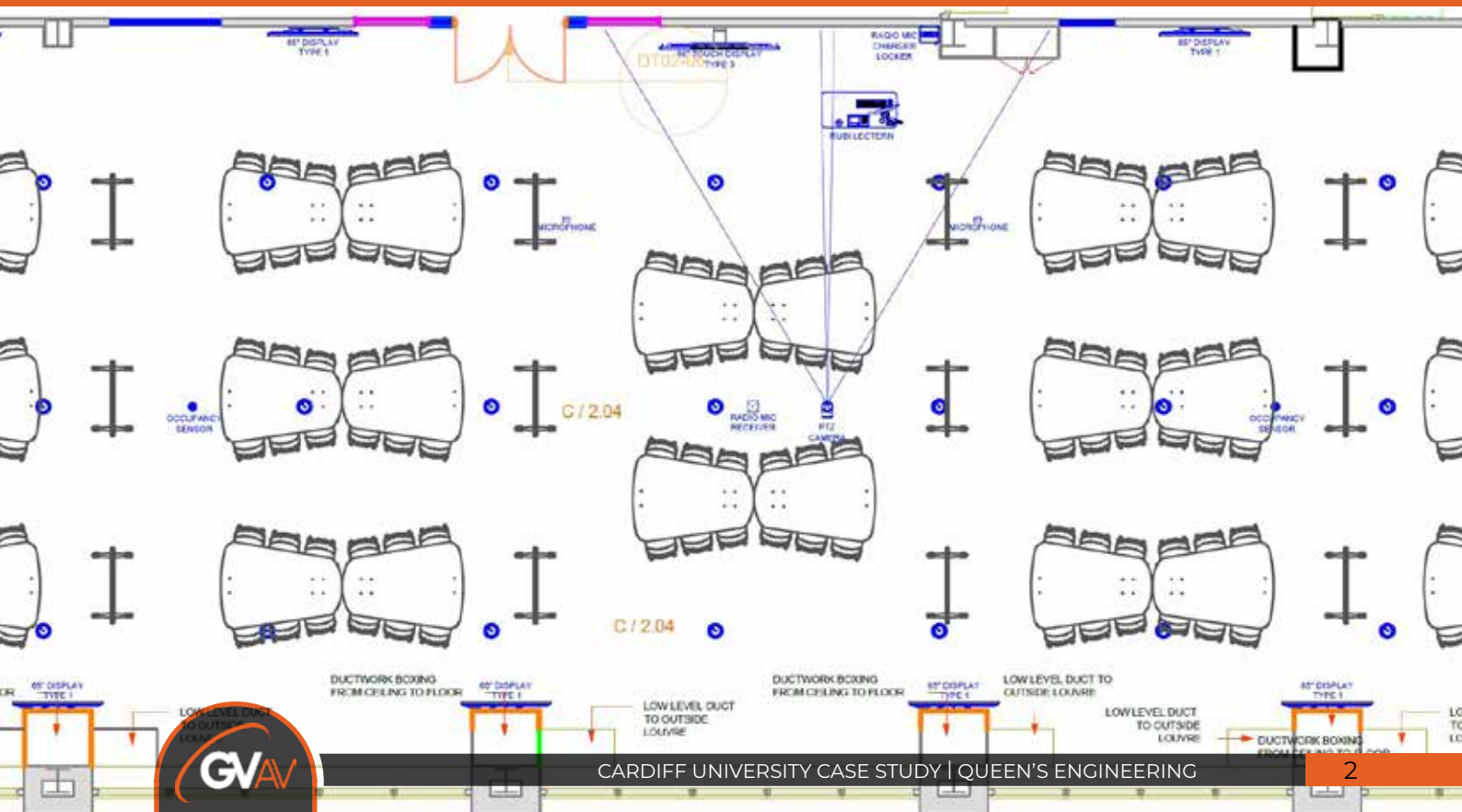
More than ever, effective communication was a vitally important facet of this project as the rooms were completely stripped out and refitted to create the new spaces, requiring meticulous planning and cooperation between a multitude of experienced contractors. Working around each other required a great amount of planning through regular meetings, as decades of multi-industry expertise were tapped into to pull this ambitious summer installation together.

AV Installed

- Visionary encoders & decoders
- Panasonic displays
- Clevertouch displays
- Crestron control
- JBL speakers
- Audio-Technica and Shure mics
- Biamp DSP
- QSC amplifiers



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Displays

20 Panasonic TH-65EQ2 4K displays were installed throughout the facility, with 12 of these in the larger room, C/2.04.

This 65" model was chosen for its connectivity, functionality, high-quality visuals and brightness, which was a particularly imperative feature for combatting the nature of the bright spaces with large windows looking out across the courtyard.

TOP-TEC Jupiter Shuttle mounts were chosen to fix the displays to the wall, and further TOP-TEC standing mounts were employed as a solution to a logistical challenge mounting the Panasonic displays in areas there were

glass panels or impractically small wall space to install them.

Alongside the peripheral Panasonic displays, the main teaching display in both rooms is the Clevertouch 4K 86" IMPACT Plus touchscreen. This model has become a popular choice for the University due to its high-precision touch technology, connectivity options and usability.

Mounted on electronically height-adjustable Clevertouch column display mounts, the IMPACT Plus displays allow University staff to teach in a more interactive way, facilitating the ability to highlight, annotate and illustrate with a stylus or finger-touch.



CLEVERTOUCH™

“Considering all aspects of the project – from construction to technical, this was an exciting and well executed fast-track refurbishment programme. The creation of these 2 new innovative spaces, including the fantastic audio-visual solutions will most definitely enhance both the teaching and student experience”

**Anthony James,
Space Manager – Cardiff University**





Enhancing connectivity

The room's displays are just one of the many components of this new state-of-the-art facility.

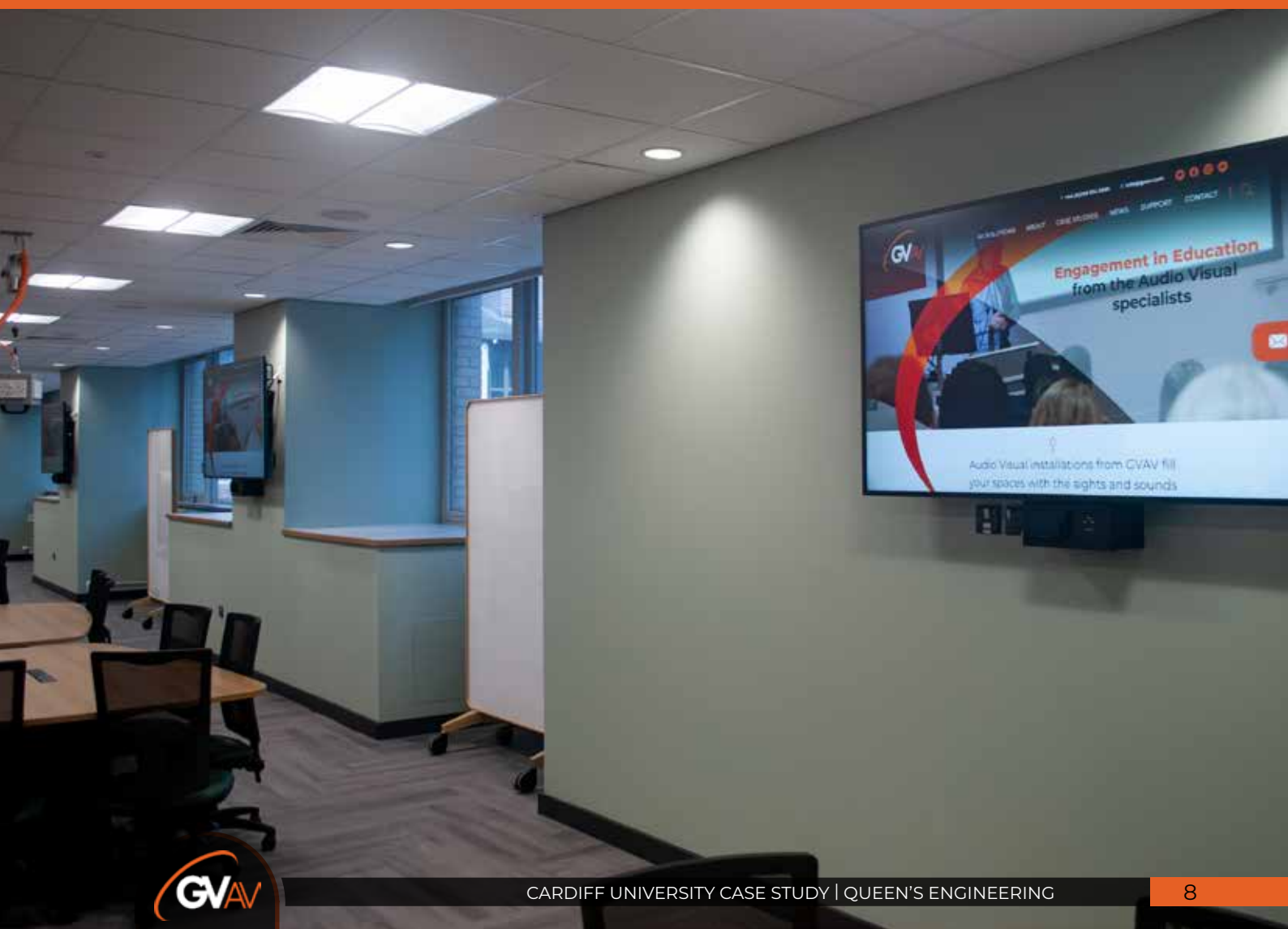
As with the majority of new audio visual installations in education, another important client requirement was for the space to be accessible for remote learning. For clear video capture benefitting those joining sessions externally, a Panasonic AW-HE40SW PTZ camera with 30x optical zoom is installed alongside Clockaudio and Audio-Technica ceiling microphones for optimal sound capture.

For those in the room, JBL ceiling loudspeakers are driven by Crown power amplifiers, producing loud and clear audio with the option of inputs from an integrated Audio-

Technica boundary mic or Sennheiser Speechline handheld and clip-on lavalier microphones ensuring the presenter is heard effectively.

A Sennheiser MobileConnect unit brings an inclusive and innovative dimension to the learning spaces, serving as a hearing assistance system, catering to the diverse auditory needs of students. MobileConnect allows users to access enhanced audio content directly through their smartphones or tablets, eliminating the need for additional hardware, ensuring that everyone, including those with hearing impairments or language preferences, can fully engage with lectures and presentations.

Axis cameras are also integrated into the AV system for security and monitoring purposes.



A Visionary AVoIP solution

To bring each component part of the integration together, AVoIP (Audio Visual over Internet Protocol) systems were implemented in both of the new spaces, representing a scalable, flexible and forward-thinking solution to multi-media integration. This advanced system harnesses the power of IP technology to seamlessly distribute audio and video signals throughout each space.

In practical terms, the AVoIP systems enrich the students' learning environment and empowers teaching staff by providing a dynamic, high-quality platform for sharing content.

At the heart of this AVoIP system are Visionary encoders and decoders – crucial components working in harmony to facilitate the distribution of audio and video content.

Visionary E4100 and E4200 encoders are responsible for capturing audio and video signals from the facility's input sources. As every display needed to be able to receive two local inputs and one wireless source, each were equipped with the E4200 model which accommodates 2 x HDMI and USB-C input sources.

Once these signals are captured, the encoders employ advanced techniques to package them into IP packets. On the receiving end, Visionary D4100 decoders undertake the reverse process, decoding the IP packets back into their original audio and video formats. Once decoded, these signals are then seamlessly routed to the respective displays and audio systems for presentation.

The Visionary devices excel in delivering high-quality AVoIP solutions, making them the perfect choice for this installation. The client requirement to be able to seamlessly transmit content to multiple displays, alongside the need to flexibly integrate with various AV components, made Visionary a natural fit in the system.

The backbone of the AVoIP system is the network infrastructure, which comprises of high-performance network switches from the Netgear M4250 Series. By managing the routing of the IP packets, the switches ensure minimal latency and preserve the integrity of the AV signals.

The system handles audio signals with the help of the Biamp Tesira's advanced Audio DSPs (Digital Signal Processors). These processors receive audio from the input sources, optimising audio quality and fine-tuning sound before routing it to the speakers. The Tesira's modular design and scalability future-proof the system, adapting to evolving needs over time.





CARDIFF
UNIVERSITY
PRIFYSGOL
CAERDYDD

“The introduction of new technologies including Crestron VC4, Visionary AVoIP and Sennheiser Mobile Connect have all added to help produce 2 high-end and bespoke learning environments. The careful selection of new and developing technologies helps us to continue to provide bespoke, definite solutions for Cardiff University”

**Pete Dunsire,
Space Manager – Cardiff University**

Seamless, familiar simplicity

The AVoIP system facilitates dynamic content sharing across the room's devices, all controlled from the lecturer's teaching station. Integrated with a mic, WolfVision visualiser, HDMI, USB-C and USB-A inputs, and a client-supplied PC, custom branded TOP-TEC Rubi lecterns sit at the front of each of the new rooms.

Built into each lectern is also a Crestron control panel with a familiar custom-designed GUI for continuity and ease of use alongside the University's other teaching facilities.

This user interface was workshopped, programmed and tested in-branch to the client's specifications, meaning it was ready to be implemented on site.

Following a style the client was already familiar with meant that further staff training required would be minimal in order to use the system intuitively.

On handover, the client was supplied with a comprehensive User Guide for the space, which includes full operating instructions and troubleshooting guidance.

The Crestron control panel allows the end user to easily select different input sources for the main Clevertouch display from either an external wired connection, the integrated visualiser, or the room's PC. What's more, this signal, or other inputs, can be displayed on each of the room's Panasonic screens using this panel.

Each Panasonic display is fitted with a custom box with its own control panel facilitating even display options, allowing breakout groups to work independently and show their content locally. A Kramer VIA GO² integrated with each display facilitates instant and reliable wireless connectivity up to 4K. Shared content can also be relayed to the room's other displays via the teaching control panel, making this a truly versatile solution.



A transformed space

Much more than an average AV refresh, the new facility within Cardiff University's School of Engineering stands as a testament to the University's dedication to providing a world-class educational environment that inspires students. This ambitious integration encompasses not only a full spectrum of audio, visual and control systems, but also cutting-edge scalable AVoIP technology built for the

future.

Building on a long-established and successful relationship with the client as well as working collaboratively with the main contractor, the consultants and a host of other third parties, **GVAV** delivered a state-of-the-art facility that will undoubtedly help further position the University as a pioneer of modern learning spaces.



“From concept to detailed design, meticulous planning, and the attention to project particulars has led the way in helping develop these 2 unique spaces. Delivered on time within budget and to a high standard, ENGIN 2.04 and 2.07 are helping build the universities portfolio of technically advanced and state-of-the-art learning spaces”

**Pete Dunsire,
Space Manager – Cardiff University**





Don't forget to check out our other recent case studies...



Prince Edward Hall, University of Hertfordshire

A collaborative flat-floor lecture theatre featuring an LED wall and AVoIP technology.

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Systems Integration

Acknowledged in the industry for providing top quality integrated solutions. We develop systems that are easy to use and offer a great user experience.

Working efficiently on site alongside third parties and contractors, we seamlessly integrate cutting edge technologies into legacy systems.

And, with our commitment to uncompromising Project Management, we've got the experience needed to smoothly integrate into any construction or refurbishment scheme, no matter the size.

With technical teams continuously receiving the latest training and development, we ensure they have the most up-to-date skills and product knowledge.

With GVAV you can be confident in gaining a beautifully designed and robust AV solution.

Rack build

At GVAV, we don't just excel at systems design...

Our highly skilled engineers build AV racks in-house to the highest quality and specification. With regional build centres located across the UK, you can rest assured we'll build your equipment rack locally - reducing time and travel.

With dedicated rack wiremen and our extensive portfolio of AV products, our AV racks are consistent with the highest standard and ready to fit.

Predominantly built at one of our controlled facilities and designed to exact specifications, AV racks comply with industry standards. Arriving on site, fully assembled and tested, we provide installation, integration, commissioning and handover services as part of our comprehensive service. And, with large stocks of rack equipment, materials and integration hardware in stock, we can also accommodate last minute changes with ease.

Whether your project is small or large, CV rack build is here to get the job done fast.

Solutions choice and design

GVAV have the skills and resources to ensure success and get the best return on your investment.

With decades of experience, we offer refined designs delivered by highly skilled solution designers who know how to realise your AV requirements.

We partner with our customers to generate the most innovative, cost effective and feature rich solutions and work to the respected, enhanced AVIXA standards to ensure consistency and performance across all of our projects.

No matter the size of your project, we've got you covered.





Project management

We understand the importance of excellent project management, and our experienced team of trained, accredited professionals do too.

As a company we invest heavily in our national PM teams supporting training to accredited standards particularly PRINCE2 and CTS.

Flexible project reporting ensures transparency for customers who can view their project progress throughout the process, and our system helps deliver agile, timely visibility to key stakeholders. Ensuring projects stay on time and in budget.

We will provide additional project managers giving appropriate support depending on the project size. PMs will focus on contractual, multi-trade, SHESQ and onboarding elements of the broader project with tangible benefits to our clients.

This capability is hugely beneficial when the work forms part of an overarching construction project or multiple jobs require management. We will integrate tightly with the principal contractor project team.



Training

We recognise the difficulties organisations face in implementing new technologies, promoting user adoption and building operational confidence amongst end users.

They are the fundamental elements that help guarantee you're getting the most out of your system.

No matter the level of in-house technical knowledge, adopting new products and work methods can be complex. But, taking on these challenges allows you to augment your business practices, provide your customers with better service, and compete more effectively.

Technology changes fast, and AV is constantly evolving, making it a truly exciting field. However, we understand this is a daunting prospect if you don't deal with AV all the time. We can provide the reassurance you need through training.

Training is an essential element of any well designed AV solution and represents a powerful tool for promoting user adoption. It maximises the benefits of the technology by enabling it to reach its full potential.

Technical support

GVAV knows how vital good technical support is to our customers and understands their wide range of support needs. We will match support levels to your specific requirements considering user experience and system complexity.

Our support services include access to GVCORE, our support and service desk solution for incident logging, management and resolution, accessible by phone, email or secure login

Customer satisfaction is of paramount priority, and we take pride in the quality and professionalism of our support services. You will receive expert advice on usage, helping you get the best out of your equipment and keeping it working in peak condition.



Control systems

Since its inception, GVAV has been at the forefront of bespoke integrated AV systems for business and education. Our mission, to deliver designs that offer excellence to our customers technically and in user experience.

Whether using Crestron, AMX, Extron, or one of our other excellent manufacturers, the foundation is simple, logical, elegant, well-programmed interfaces that make our solutions work for you.

Our highly qualified experts have designed, programmed and supplied a wealth of projects from individual meeting rooms, classrooms and lecture theatres to expansive building wide installations. We incorporate estate-wide management that handles lighting, audio and building control, and we support environmental room monitoring and asset booking.

Our team carries certifications from all major system manufacturers so that you can expect an efficient and timely control solution. Whether for a new system or to update your existing one. Our interfaces are intuitive and reliable.





Maintenance

With our nationwide network of branches, we offer local expertise, which means you get the support you need!

Offering a wide range of maintenance services supported by our skilled engineers, we will manage your request every step in a friendly, helpful and efficient manner from your very first call.

Our maintenance packages offer excellent value, protects your AV system, reduces downtime, and ensures that it will run smoothly for years to come providing a great return on your investment.





Ready to deliver the systems you need

Our six dedicated local hubs across the UK offer a full range of services to make your AV ambitions come to life. From consultation, planning, design, training and maintenance, we have the experience to deliver.



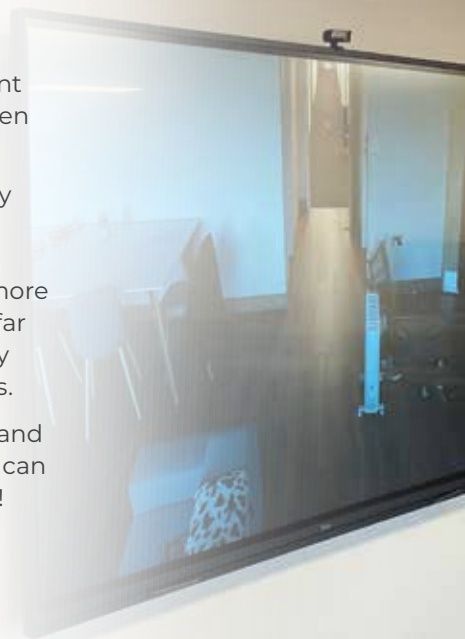
Meet the team

GVAV is delivering the next generation of collaborative spaces!

With a return to the new normal, we have taken all the lessons learnt from COVID and pushed them even further.

GVAV's nationwide team are ready and waiting to support this new world. We deliver outstanding AV solutions that allow you to work more closely than ever, no matter how far apart. Collaboration has genuinely become a superpower for success.

Speak to your local branch today and find out how our dedicated team can help you revolutionise your space!



Bright Ideas

Your go-to AV guide



[READ ONLINE](#)

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AV services you can rely on

Six local branches across the UK

GVAV has installed thousands of projects nationwide. With local branches covering the entire country and a central hub of systems and resources, we are ready for any project, no matter the size or complexity.

At GV, we have the skills, local resources and experience to take your needs from a concept to a fully integrated and supported Audio Visual solution.

On hand to help

GVAV provides sales, service and support, accessible via mobile, web or email. Our customers can contact us whenever and wherever they need to, and we take customer satisfaction very seriously, so training, support and effective project management are critical to all we do.

Maintenance and support

Our nationwide network of branches means local, experienced engineering resources for our customers. From essential preventative maintenance to site-resident engineers, extended hours and short term events or full operational support, whatever you need, GVAV can help.

Our project, technical, and programming teams ensure your AV projects deliver on every level.

We pride ourselves on offering the best quality goods and services, and our customers know they always get great value for money.

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