

# Siemon supports technical advancement at the University of Bristol's £56.5m Life Sciences Building



The University of Bristol has completed a £56.5m investment in a new build, state-of-the-art Life Sciences site, designed to explore new horizons in biology and medicine. Opened by Sir David Attenborough, the site is the University's biggest construction project to date and is a significant landmark on the Bristol skyline. The ground-breaking research at the University of Bristol will be supported by a high performing Siemon network, to foster both academic advancement and a sustainable environment.

An iconic building now houses the School of Biological Sciences; fully equipped to become one of the UK's leading facilities for the advancement of Biological Sciences and a range of related disciplines. The new site is split into three zones, including a five-storey laboratory wing, complete with acoustic chambers, spectroscopy and microscope rooms, clean rooms, a double height plant room and green houses for plant studies. Clustered around a central atrium, state of the art laboratories, teaching spaces and offices are all part of the build and are all supported by a Siemon category 6A F/UTP network infrastructure.

## **Regeneration**

Located on St Michael's Hill in the centre of Bristol, the Life Sciences Building regenerates 13,500 square metres of space in the heart of the city. The site for the new building used to house disused blocks of the old Children's Hospital, plus a building from the 1960's and two blocks of houses. All have been cleared to make way for this technologically advanced site, whilst the listed frontage of the hospital has been retained to provide an inspiring bridge from the city's heritage to its developing future.

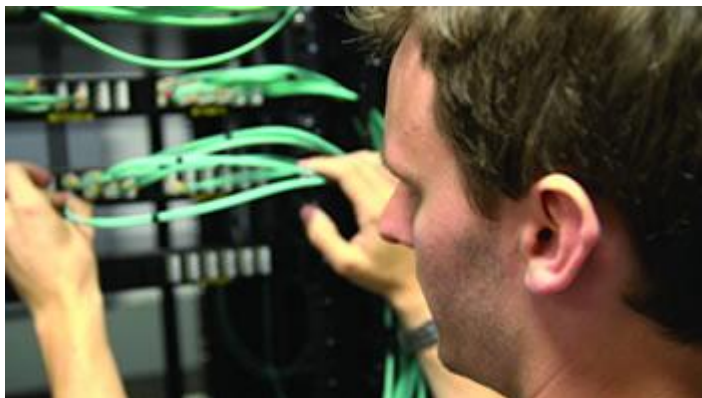
To date, the School of Biological Sciences housed up to 2,000 occupants in cramped Victorian buildings, dating back to around 1880. Site managers realised that a complete new build would prove more cost-effective than refurbishment of existing facilities and allow for progress to be made, not only in the sustainability of the site, but also in the environment for learning. The new building, with its visually arresting glass atrium, provides outstanding facilities for science teaching and is designed to enhance research-led study and staff-student interaction.

## **Progressive learning**

The Life Sciences building boasts one of the largest teaching labs in the country, capable of teaching 200 students at once. There are multiple screens to ensure all students can see close-up what the lecturer is doing, plus the new laboratories are fully equipped with notebook computers and cutting edge equipment for microscopy, genetic analysis and environmental monitoring. The facilities are all specially equipped to support physically and visually impaired students, with all of the benches being wheelchair accessible and white network outlets mounted on grey faceplates to give sufficient contrast to comply with the needs of the visually impaired.

As an example of the University's sustainability ethos, the building and surrounding area has been rated BREEAM Excellent, being highly sustainable and environmental friendly. With sustainability high on the agenda, it may not be surprising to learn that environmental responsibility was a key consideration during construction and within the overall site design: The site includes 100 bicycle parking spaces, rainwater collection for toilet flushing, solar panels to generate electricity, a 'green living wall' to contain plants and promote wildlife within the area and two bat roosts! The building is topped by a state-of-the-art greenhouse, known as the 'GroDome', which is able to recreate tropical conditions thanks to carefully controlled light, humidity and temperature.

### **Equipped for new horizons**



For this significant building a technically-advanced infrastructure was required to support the world-class scientific study that it is to facilitate. For Martin Conway, the University's network and data centre manager, the choice was straightforward - based on success in other pioneering builds and the organisation's campus-wide standard - he specified Siemon.

10 Gbp/s Ethernet over category 6A F/UTP cabling which is the University's standard, and for the Life Sciences build, the total scope was for 4800 outlets, with 32 Siemon VersaPOD® cabinets housing active equipment and cross connects across the site.

In this important new development Siemon network cabling products are used in the laboratories, meeting areas, in the data centre and comms rooms.

Siemon's ultra-high density VersaPOD was chosen to maximise patch cord management, with the Zero-U vertical space between cabinets efficiently utilised to maximise space inside the cabinets. Not only space efficient, this approach also improved airflow by avoiding any patch cord slack in the horizontal equipment mounting areas and hence

having a positive impact on cooling. Angled copper panels were also used to reduce the need for horizontal cable management.

High density 96 port 1U fibre panels were chosen to maximise density and save space in the cabinets for future growth of active equipment. For copper connectivity, shielded Z-MAX was preferred due to its superior performance, density, fast termination and smaller cable diameter compared to other products, which allowed more efficient pathway utilisation throughout the installation.

Siemon's global accounts manager, Richard Fowler, explains, "The University of Bristol, under the guidance of Martin Conway, is a technically rich site. His open-minded and future-focused outlook means that the networks across its considerable campus are consistently equipped with future proof infrastructure. Sufficient headroom is always considered and the School of Biological Sciences will be well equipped for the data throughput required for the future of its research."

As with other new builds on the University campus, this site runs a Building Management System (BMS) over its 6A F/UTP network. This provides not only the routine services and controls for facilities such as light, access, security, heat and ventilation and VoIP but also supports more sophisticated systems that closely control the environmental conditions for insects and other lifeforms that are part of the research work of the University and housed in the laboratories on site.

### **Collaborative approach**



Martin Conway explains that the network has been designed with superior performance and capacity for all the applications required within the Life Sciences building. This, he says, includes support for multi-disciplinary research work, bringing together expertise from different fields: "No longer is life science study restricted to zoology and botany, but research projects are now likely to include collaborative working across the diverse life science disciplines, together with other academic fields such as mathematics, chemistry and biochemistry. This means a much wider set of equipment and application requirements as a result."

This collaborative approach to the work within the building is reflected in its design, with 28 architects from 10 different countries working together on the project. Beyond the communication afforded by its technical infrastructure, the building also includes break-out spaces, seminar rooms and social spaces to enable and encourage idea sharing. Just one example of this are the eight meeting pods that are 'suspended' in the atrium space.

## **World-leading development**

Professor Sir Eric Thomas, Vice-Chancellor of the University of Bristol, said: "Many of the most significant advances will come from the Life Sciences and this magnificent building will put Bristol on the map for world-renowned research and teaching in this area for many years to come."

Echoing Sir Eric's optimism for the Life Sciences investment, Martin Conway concludes, "This building will transform the learning environment for the School of Biological Sciences and the Siemon network infrastructure, whilst unseen, will be the technical nervous system that supports world-leading research, providing performance to match the state-of-the-art facilities and deliver for future generations of scientific study."

It is fitting that the 'nervous system' that this £56.5m world-leading facility relies upon is network cabling which utilises the latest developments in infrastructure technology. Siemon's category 6A F/UTP system, with high density VersaPOD, 96 port fibre panels and rapidly deployed Z-MAX connectors provide a perfect eco-system, delivering unmatched performance, efficiency and sustainability for this site of internationally-significant research.