



# **Quadram Institute, Norwich**

## **Case Study**

*Asela Rodrigo, November 2019*

# Quadram Institute

*The Quadram Institute showcases the flexibility of Prolojik's lighting control system, demonstrating DALI lighting, Central Battery integration, BACnet, and IP integration, along with EnOcean energy harvesting user control.*



The Institute, located at Norwich Research Park, is the £75 million flagship research facility for the Quadram Institute, the University of East Anglia and the Norfolk and Norwich University Hospital (NNUH), focused on food related microbiology.

The Quadram Institute opened in May 2018 and boasts amongst its facilities one of Europe's largest gastrointestinal endoscopy units and clinical research facilities with 300 staff carrying out 40,000 procedures per year.

The 22,000m<sup>2</sup> Quadram Institute was designed by nbj Architects with M&E design by Buro Happold. The facility was constructed by Wates, with SES (Engineering Services) Ltd delivering the M&E services.

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*“Providing world-class infrastructure and a culture that fosters collaboration is a key to maintaining the UK as a world leader in research and innovation. By bringing scientists and clinicians together in a purpose-built facility, the Quadram Institute will ensure insight and understanding is rapidly translated to maximise the positive impacts of food on health and reduce the economic and societal costs of chronic diseases.” Sir Mark Walport, Chief Executive, UK Research and Innovation*

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The project encompasses the full breath of Prolojik's technologies across lighting control, central battery integration, AV and BMS integration as well the use of EnOcean energy harvesting user controls.

## Lighting Control

The project integrates 3000+ DALI luminaires to our PL931 DALI controllers. Over 100 DALI networks are inter-networked onto an Ethernet network using our PN541 TCP/IP area controllers. Control for occupancy and daylight is achieved by over 600 PS432C conduit-box mounted DALI multi-sensors, which are designed to fit directly into BESA enclosures, ideal for exposed ceilings.



## Central Battery Integration

As with many mission critical facilities, Quadram Institute is supported by a Central Battery System (CBS). When a CBS integrates with a DALI lighting system, it is crucial that lighting is not “held-off” under DALI control when power fails. To prevent this effect, Prolojik developed our PL105 DALI phase failure monitoring units, which override the lighting to full output in the event of a lighting circuit failure.

## AV Integration

Prolojik’s PN350 AV gateways are installed in 9 locations to provide integration between the audio/video system and the lighting control. The AV gateways support

scene-recall, override and bi-directional control of associated services.

## HVAC Integration



One of the key benefits of our open systems approach is our ability to directly integrate the lighting data with third-part systems. The ability to utilise the occupancy data to achieve both lighting energy saving, as well as share the data over BACnet/IP is one such benefit. This optimisation halves the number of installed sensors and reducing build cost, without compromising the building functionality.





## EnOcean User Control

EnOcean has developed a range of wireless and battery-less peripherals, which are embedded into a variety of manufacturers' devices. One example of this are the MK Electric Eco range of switch interfaces.

EnOcean provide a number of unique benefits including service-free operation and install-free operation.



To take full advantage of the flexibility of EnOcean, Prolojik deployed 17 of our PN660 EnOcean gateways to interface to over 120 EnOcean controlled rooms to support both switching and dimming control and data sharing with our DALI multi-sensors for a seamless control integration.

## IP Supervisor

A building of this sophistication demanded an equally robust approach for supervision. We achieved this by implementing a TCP/IP infrastructure and virtualising our Perspective Supervisor on a rack-mounted server located within the Quadram Institute data-racks.



The Perspective supervisor provide an extensive set of features including real-time monitoring, status reporting, system reconfiguration, time scheduling, DALI, BACnet/IP and EnOcean device management.



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## Summary


The Quadram Institute is a prime example of how the Prolojik open standards-based lighting control system can support the numerous demands of a sophisticated client. We integrate with leading technology providers including EnOcean, BACnet, DALI from best-in-class suppliers to provide a seamless integrated solution.

Contact Prolojik at [info@prolojik.com](mailto:info@prolojik.com) to find out more.




 [www.prolojik.com](http://www.prolojik.com)

 [info@prolojik.com](mailto:info@prolojik.com)

 +44 (0) 1494 515 100

 @prolojik

 Prolojik Limited

 Perspective House, 7 Cliveden Office Village,  
Lancaster Road, High Wycombe, HP12 3YZ