Intesis® BY HMS NETWORKS

Case study:

Energy efficient tunnel lighting

Solution:	Intesis Modbus to DALI gateways
Country:	United Kingdom
Company:	Ematics
Summary:	Replacing the lighting in a busy London commuter road tunnel offered the opportunity to reduce energy consumption using full feedback control

The effects

- Using Intesis gateways to connect to a DALI network provide a compact, robust solution.
- The network runs from the control room, through the tunnel and loops through the driver enclosure for each luminaire.
- Each luminaire is individually set using a photometers located along the tunnel.

Consyst

"We have completed a number of infrastructure projects around London. We are using the Intesis DALI gateways due to its proven reliability in critical lighting systems and ease of commissioning in projects that we have been involved with for over 5 years."

Lior Golani, Managing Director at Consyst Ltd

Bright future for London's commuters

A new illumination system in London's busy Eastway Tunnel is optimising lighting levels while also saving energy. Using HMS Networks' Intesis building automation solutions, it was installed by Morson Group company Ematics, a control systems integrator that specialises in critical infrastructure projects and advanced technological engineering solutions.

On the A12 main truck road, the 300m long Eastway tunnel is used by countless regular commuters and occasional visitors to London every day. As such, optimum lighting to ensure users' safety is paramount. Its original lighting consisted of cornice mounted twin 58W fluorescent luminaires, interspaced with 250W and 400W HPS boost lighting, controlled by a photometer and contactor system. This was used only at night.

With restricted headroom in the tunnel, Ematics was not able to mount any infrastructure over the roadway. Instead all new lighting, cabling and control had to be mounted in the cornices over the kerbs. This required that they design a bespoke lens for the new TRT Verso luminaires they were installing, which direct 25 percent of the light towards the wall and 75% to the road, enabling optimal light levels to be achieved on all surfaces without wasting light or energy.

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>
> *Lior Golani*

HMS

For connection to the DALI network Ematocs used an Intesis gateway.

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All control elements are located within the tunnel control room for ease of maintenance. Lighting control is provided via a full feedback PLC (programmable logic controller) system based on an open standard DALI (digital addressable lighting interface). The network runs through the tunnel and loops through the wall-mounted driver enclosures associated with each luminaire.

Photometers monitor local light levels and set each luminaire’s output individually, so that lighting levels throughout the tunnel are at an optimal level for safety without being overly bright and wasting energy.

In order to connect to the DALI network Ematics used the Intesis gateway from HMS Industrial Networks, supplied by their specialist channel partner Consyst Ltd, as this enabled a one-step interface that is both compact enough to meet the space constraints within the tunnel and also able to offer a long trouble free working life.

The Intesis lighting gateway used in the Eastway Tunnel is part of a wider range of building and facility automation products that includes, energy management systems, access controls, fire alarms, smoke detectors and air conditioning connectors. As well as DALI, Intesis also offers protocol converters for all the common control languages used in building and facilities automation, including ASCII, BACnet, KNX, M-bus and Modbus. The latest addition to the Intesis range is a Cloud connector, which allows systems to be monitored remotely and to archive all operating data.

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