



Case Study

Dual Distributed Networks

A symbiotic convergence of energy and data in a single integrated solution



KelTech IoT
WE MAKE SMART SIMPLE

Case Study - Wembley Park, London

Executive Summary

KelTech IoT designed and deployed an innovative communication network solution, combining energy and data in a single integrated solution. The Dual Distributed Network (DDN), deployed at Wembley Park, London, was a quicker, more cost effective and safer implementation to that of a traditional design. As a result, a total capex saving of between 40 to 50%, with anticipated opex savings of 10 to 15% was achieved.

Introduction

Velocity1, on behalf of Quintain developers, partnered with the KelTech IoT team to deliver a range of smart building technology solutions at Wembley Park, London. The 85 acre site development involved 1 million square metres of mixed use residential, commercial and retail units space and included Europe's largest smart build to rent (BtR) complex with over 7,000 BtR apartments.

Key to the smart buildings and infrastructure implementation was a resilient converged fibre optic network throughout the entire complex with several separate virtual networks, including a public passive optical network (PON) to lamp posts and strategic positions on the site. The public realm communication network specified a range of IoT enabled devices, including public Wi-Fi, street lighting controls, footfall cameras, CCTV, public audio systems and digital signage capabilities.

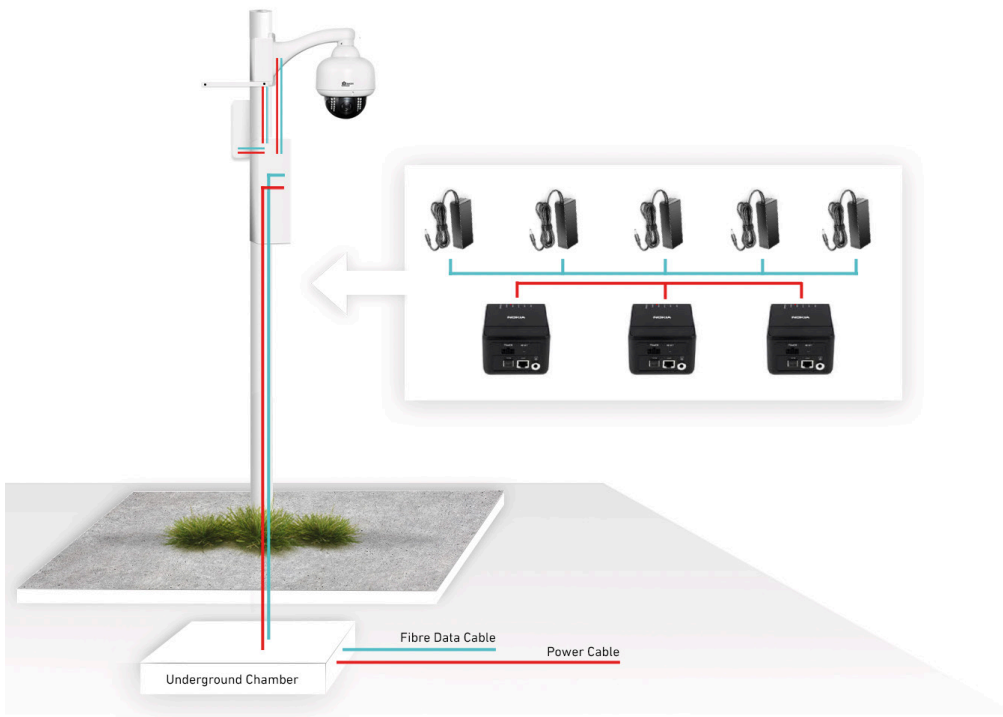
With a footfall of over 24 million anticipated per annum a number of smart devices or end points (CCTV, Wi-Fi access point, footfall camera) were designed into onsite lampposts. While the end point design and selection integrated aesthetically with the design of the lamppost, the lamppost design itself did not cater for the required power or network connection for these end points.

Original design with traditional power supply

The original design, using traditional power delivery, required the installation of a large IP66 enclosure on the lamppost. The enclosure was to house all the data and power infrastructure needed to service all the end points. As per the diagram, this was not a very aesthetically pleasing design. An underground solution using a traditional power and data delivery was not viable from a space and commercial perspective.



Figure 2. Original lamppost design



Revised design using KelTech IoT DDN

By implementing a KelTech IoT DDN solution, the bulky IP66 enclosure on the lamppost was made redundant. The design removed the need for permanent power on the lamppost for each end point, as these were powered instead by the KelTech IoT DDN, which was less than one quarter the size of the IP66 enclosure and could be readily placed in the underground chamber. In addition to the aesthetic improvements on the revised design, a centralised UPS and monitoring system was implemented for all lampposts, improving reliability and fault resolution capability.

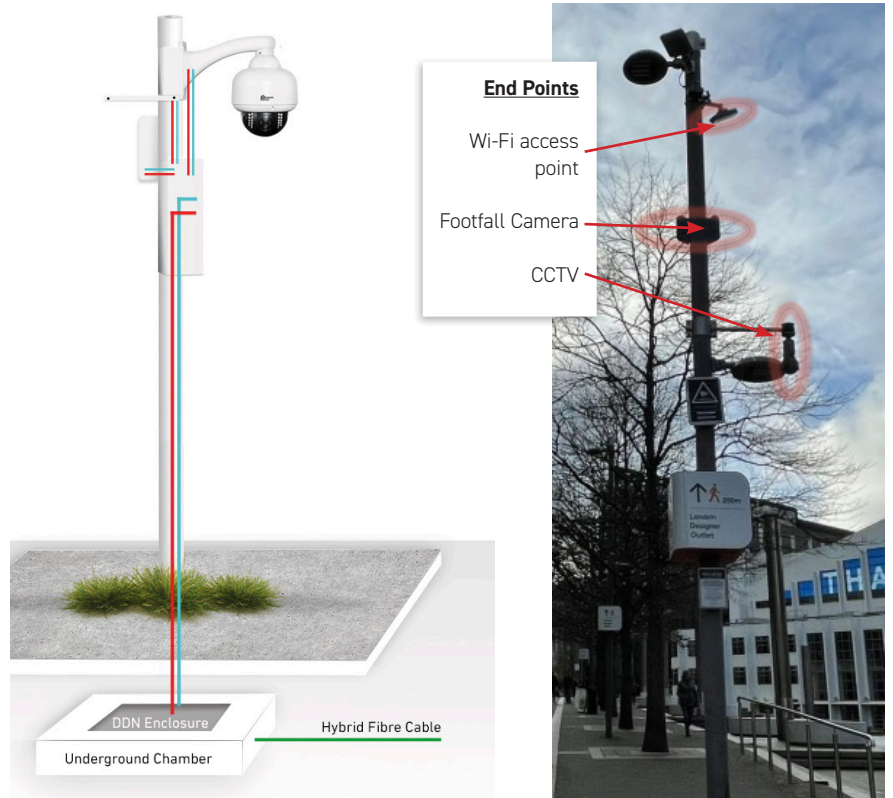


Figure 3. Revised lamppost design and deployment with KelTech IoT DDN solution

Conclusion

KelTech IoT's unique Dual Distributed Network (DDN) solution implemented at Wembley Park provided a significant improvement over a traditional communications network deployment. By combining electricity with communication network cabling infrastructure, a significant saving in time and costs was achieved, as well as improvements in the overall safety, simplicity and size of the network implemented.



About KelTech IoT

KelTech IoT provide smart solutions for the communications infrastructure and property technology market. A global organisation, with an unparalleled experience, we partner with clients to support the development and delivery of innovative communication networks and digital services.

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