

# ADEPT President's Awards 2023

Entry form

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<b>Award category</b>	Digital Innovation/Technology
<b>Project Title</b>	Wakefield LED lighting programme, powered by digital innovation and smart technology
<b>Local authority entrant</b>	Wakefield Metropolitan District Council (MDC)
<b>Partner/s if applicable</b>	Amey, Wakefield MDC and Signify (key supply chain partner)

## Headline summary (150 characters max.)

Street lighting is becoming digital. Amey's LED solution will cut energy by 85% and carbon by 4,088 tonnes, future-proofing Wakefield's energy supply.

## Video - please paste links to any video evidence here. (Leave blank if not relevant.)

Smart city# PHILIPS Digistreet:

<https://www.facebook.com/BSTLIGHTING/videos/smart-city-philips-digistreet/1745757148834533/>

Interact City - Connected LED lighting system and software:

<https://www.youtube.com/watch?v=80hsjzRJalM>

## Digital innovation: How has this project shown evidence of successful digital innovation and the imaginative use of new technology? (150 words max.)

Working in partnership with Wakefield MDC and our key supplier, Signify (formerly Philips), we have transformed the way Wakefield's lighting stock is managed. This programme to convert 45,500 lanterns to LED technology is supported by our innovative solution which combines the 'City Touch' Central Management System (CMS) and the 'Digistreet' luminaire product.

Wakefield MDC can now remotely control all of its lighting assets using the City Touch platform, which is enabled via a mobile communication network for automated fault detection and remote dimming. The Digistreet lanterns also offer increased performance, efficiency and reliability - allowing us to reduce faults and provide Wakefield with annual savings of £250k in maintenance costs. Together, we've driven the optimum solution to make Council budgets go further - achieving an 85% reduction in energy consumption at a time when local authorities are facing up to the challenges of increasing energy prices and sustained market volatility.

## Digital innovation: How has this project shown evidence of improved outcomes for users? (150 words max.)

Wakefield's LED conversion programme has improved outcomes and value for money for users. Our LED solution provides better white light using 85% less energy, creating a more pleasant night-time environment for communities and residents, whilst reducing obtrusive light and 'sky glow'. The improved lighting quality is proven to reduce the number and severity of road accidents, and incidence and fear of crime. The increased reliability of LED lanterns has improved service delivery performance

and minimised disruption for communities, with lamp changes no longer required and significantly reduced maintenance (saving £250k of taxpayers' money annually). Our solution eliminates need for 'night scouting' (in-person inspections to check assets are working); providing health and safety benefits for our workforce and associated carbon reductions. We're also trialling plug-in motion sensors to optimise lighting levels based on road usage and illuminate streets as people walk down them, promoting safety and wellbeing at optimum cost/energy usage.

**Digital innovation: How has this project shown evidence of the transformation of a service/department/organisation by changing behaviours, delivering savings or improving ways of working? (150 words max.)**

Together, we've transformed Wakefield's street lighting service and delivered a class-leading 85% reduction in energy consumption whilst complying with British Standards for lantern design. These achievements are accelerating the Council's journey to Net Zero by 2030.

By transitioning to more dynamic ways of working, we have shifted behaviours from 'fault-finding' to asset stewardship. Remote fault detection and dimming allows us to manage 45,500 lights using just four drivers and eliminate night-time inspections; improving operatives' safety, wellbeing and productivity.

Additional savings/improvements include:

A 22% reduction in faults and minimised planned maintenance, saving £250k annually;

Automated fault detection via the CMS has reduced average repair times by 10%;

Switching to LEDs alone cuts consumption/emissions by 65%, but real-time monitoring of energy usage via the CMS to optimise efficiency has achieved savings of 85%;

The CMS acts as a meter, allowing capture of savings from changes to switching times/lighting levels on individual units.

**Digital innovation: How can the innovation/technology in this project be applied in multiple sectors/areas? (150 words max.)**

This project will ensure Wakefield's lighting assets provide an enabling platform for future integration of 'Smart City' applications and technology, whilst opening up wider revenue streams for the Council. Our connected solution using the City Touch CMS and Digistreet luminaires will redefine what light can do and how people use it; providing local authorities like Wakefield MDC with better quality data to help contribute to a safer, smarter, more sustainable world.

We have developed innovative, future-proofed technology solutions to establish a truly connected public lighting network that offers wider benefits and digital connectivity far beyond street lighting for the people of Wakefield. For example, by installing a second 'System Ready' (SR) socket on the underside of each lantern, we have enabled the Council to procure and deploy 'plug-and-play' sensor technology (motion detection, air quality monitoring, road temperature sensors etc) and wider wireless 'IoT' applications from City Touch 'Ready Certified Partners'.

**Digital innovation: How does this project demonstrate scalability and resilience - the ability to use technology in a wider scope and in a way that encourages longevity of use? (150 words max.)**

This project has significantly increased the resilience and longevity of Wakefield's lighting stock and has demonstrated considerable scalability. Our solution covers 45,500 lanterns across an area totalling 130sq miles, serving major towns such as Wakefield, Castleford, Pontefract, Normanton and South Kirby, and a population of 300,000 people.

The 85% reduction in energy usage and carbon is driving Wakefield's journey towards Net Zero by 2030, and future-proofs the lighting network in adapting to future energy crises/shortages and associated

changes in British Standards. The scalability offered by future incorporation of motion sensor dimming/illumination technology will make energy go further in Wakefield, with lighting levels aligned to community needs and Council budgets. The planned migration from City Touch to the 'Interact City' platform in Autumn 2023 offers further scope to integrate emerging 'Smart City' applications and innovations. This project's legacy is a digital ecosystem that will strengthen Wakefield's resilience, responsiveness and future growth.

**All categories: please add anything else that supports your award entry**

Captions for attached images and diagrams:

Images 1-4: The attached 'before and after' images show the positive impact our installation of LED lanterns has had in Wakefield. Our solution provides better white light, creating a more pleasant night-time environment for communities and residents whilst reducing obtrusive light and upward 'sky glow'.

5. Graph showing energy savings. Since the Wakefield LED conversion programme started in January 2021, we have consistently achieved energy savings of 85% against previous consumption. Month after month, we have exceeded the original energy savings target of 65%.

6. Calendar-linked remote dimming capability in City Touch. Using the City Touch platform, we can apply different calendars to individual lanterns to remotely control light levels in specific areas at certain times of day, allowing us to continually deliver additional energy savings.

7. Calendar-linked remote dimming capability in City Touch. The City Touch platform gives us the flexibility to alter dimming levels of each asset installed within the same area; this is based on the initial design of each lantern.

8. Map-based visibility of 'burn hours' of lanterns in City Touch. By viewing 'burn hours' since the start of the programme, we can monitor the lifespan of individual lanterns. The purple lanterns were installed recently; the orange and yellow lanterns were installed earlier in the programme.

9. NHT Survey Report: 2022 Highlights - Wakefield Council. The recently published National Highways & Transport Network Survey Report for Wakefield demonstrates the strong performance and high public satisfaction levels for street lighting, compared to other service areas.

Demonstrable value for money and client testimonial:

The works have been funded through an 'invest to save' approach, with £19.4m being spent on the new technology which Wakefield MDC is forecast to fully recoup within 13 years.

Cllr Matthew Morley, Wakefield Council's Cabinet Member for Planning and Highways, said:

"We have made an important pledge to become a carbon neutral organisation by 2030 and this project is a big part of our plans to do so. LED street lights not only reduce energy consumption and lower carbon emissions but they also reduce operational costs, light pollution and automatically identify the majority of faults so that they are dealt with quickly and more efficiently and provide better quality lighting overall. This is a really exciting project which will benefit our residents in lots of different ways."

Nick Powell, Street Lighting Account Director at Amey, added:

"We've worked with Wakefield Council since 2004 to improve and maintain the street lighting across the district, performing inspections, replacing lamps and undertaking electrical testing and cleaning. This latest, exciting development of our partnership will see us continue to improve the street lighting service for local residents and communities for future generations."