

# ADEPT President's Awards 2023

Entry form

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**Award category** Digital Innovation/Technology

**Project Title** Pedal Power Clacton to Jaywick Sands - Wind and Solar Lighting

**Local authority entrant** Essex Highways - Essex County Council

## Headline summary (150 characters max.)

To deliver a bespoke cycle network infrastructure aimed at tackling inequality in one of the most deprived areas of the country.

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

The aim of this project was to encourage the use of the cycle scheme and as a result lighting was deemed important to ensure that users felt safe and secure during the hours of darkness. As there was no existing lighting or power supplies along the route, it was decided to investigate sustainable sources of lighting powered by renewable energy.

The solution selected was Kight's off-grid, ultra-low power, smart street lighting control management, which combines with a high-performance radio and microcontroller to offer a reliable, secure and scalable solution, for complete monitoring of the street lighting.

Smart lighting control gives us complete flexibility when managing our off-grid street lighting assets. From setting lighting and dimming schedules, dynamic dimming, and remote monitoring for optimising maintenance and detecting problems in real time; the smart lighting control enables us to tailor our off-grid lighting to meet our needs.

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

This project is evolving and making a real difference by improving access to jobs and opportunities in one of our poorest communities. The location selected was due to its deprived nature, poor local transport service and low car ownership.

There are a high number of people who are disabled in this area and to ensure the safety of all users of this cycle scheme, a sustainable off grid lighting scheme was required. The anticipated benefits are improvements in,

1. cycling participation to level up inequalities,
2. sustainable active travel through cycling, including developing local cycling infrastructure,
3. the employability of local people and improve the local economy, including access to employment, education, and training opportunities,
4. the fitness and physical health of inactive people,
5. the mental wellbeing of inactive people and support to be job ready,
6. the resilience, connectedness, and social capital in local communities.

**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.)**

Through feedback this project has evolved from a relatively standard cycle route enhancement to a high-profile sustainable connection with enhanced environmental features that will provide many benefits to the local community for years to come. The project's benefits will improve due to focussing on delivering a sea-front high-quality route on the sea front, using innovative lighting powered by solar and wind power; as well as further enhancements in Jaywick to make the route more accessible and build more sustainable travel options and opportunities. This project will not only transform the infrastructure it will break down barriers and improve safety that is preventing use of the current infrastructure.

Following two sets of public consultations and based on the feedback received, we have invested in the installation off-grid lighting columns (wind and solar-powered) along this sea front section to improve safety and visibility in support of the improved infrastructure.

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

As each unit is independent of each other then, scaling is infinite and access control is not a problem with the remote monitoring.

Right off-grid solutions, specialise in hybrid, solar, wind, renewable energy, LED Street Lighting and off-grid communication solutions.

The range of standalone, off-grid, LED Street lighting is designed to be independent from the grid and comes in various configurations, designed to suit any environment, for a guaranteed 365 days a year operational effectiveness.

This is complemented with the off-grid communication solutions, to provide smart lighting control and asset monitoring, along with IoT connectivity for smart city applications.

The off-grid solutions are available in various standardised configurations to suit a large range of situational requirements or can be bespoke designed to meet specific customer requirements.

The solutions can be deployed in a wide range of environments including:

- Active travel routes
- Car parks
- Coastal deployments

**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.)**

Each hybrid solar and wind unit is designed as a standalone DC, off grid, LED Street Lighting Luminaire coupled with solar PV, wind turbine, solar charge controller, battery storage and optional remote monitoring. These units can therefore be installed in any suitable location where there are no restrictions on wind flow and sunlight or form other infrastructure. They are particularly suitable where no existing electricity power supplies exist saving on the considerable disruption and expense of new supplies and connections.

The remote monitoring not only reduces the carbon footprint from the use of renewable resources to power the units but also through the remote monitoring reduces the need to regular site visits again further reducing the carbon footprint.

The smart lighting controls have been designed specifically for off-grid deployment and are agnostic to Control and Management Systems, ensuring the system is future proofed and eliminating any issues around vendor lock-in.