

ADEPT President's Awards 2023

Entry form

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Award category	Digital Innovation/Technology
Project Title	Dig Once - Fibre ducting in infrastructure
Local authority entrant	Cambridgeshire County Council
Partner/s if applicable	Cambridgeshire & Peterborough Combined Authority, Greater Cambridge Partnership, Light Blue Fibre.

Headline summary (150 characters max.)

Connecting Cambridgeshire is proactively speeding up digital delivery and its innovative 'Dig Once' policy was the first of its kind in the country.

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

Cambridgeshire County Council's digital connectivity programme Connecting Cambridgeshire's proactive approach to 'barrier busting' is speeding up the digital delivery of broadband and mobile infrastructure across the county, whilst also generating measurable carbon savings.

The programme's innovative 'Dig Once' policy, adopted in 2019, was the first of its kind in the country to include fibre ducting in new transport infrastructure schemes, which is now bringing benefits for the economy, local communities, and the environment.

The fibre ducting is being made available on a commercial basis, allowing telecoms operators to avoid costly and disruptive retrofitting and encouraging them to extend gigabit-capable broadband networks connecting businesses and communities that would not otherwise have access.

To date, over 21 km of fibre ducting has been installed or is planned during the construction of new road and cycleway schemes by 2025.

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

Since 2019, public sector organisations in Cambridgeshire and Peterborough have adopted new policies for the delivery of fibre trunking in all transport infrastructure schemes, which both minimises delivery costs and the disruption of retrofitting fibre infrastructure.

Improved outcomes that connectivity brings for businesses and communities include ensuring future-facing connectivity is available to support next generation technology and facilitating sustainable economic growth and increased productivity - including remote working, digital skills and opportunities for businesses.

It also contributes to community wealth building and health and well-being, with better access to public services, education, training and digital inclusion.

The project is also supporting climate change mitigation/adaptation and Cambridgeshire County Council's commitment to delivering their net zero by 2030 targets and work with partners and our communities to make Cambridgeshire Net Zero by 2045.

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.)

Fibre ducting in infrastructure contributes to climate change mitigation and moving towards Net Zero with measurable carbon savings by reducing congestion, the need for refill material, tool and vehicle hire etc. There will also be savings in terms of reduced journeys and minimising disruption to not only the network but also roads, pavements and cycleways, and reducing congestion.

Using the Highways England calculator, it is estimated the 'Dig Once' policy has already resulted in savings of over 20 tonnes of CO₂e emissions in relation to materials use alone over the last two years. This is equivalent to the carbon emission of nearly half a million miles driven by an average car.

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

An increasing number of fibre broadband providers are actively planning and delivering gigabit-capable fibre networks in Cambridgeshire, and across the country, within a highly competitive commercial market.

However, the challenges involved in rolling out broadband infrastructure can make the process time-consuming and expensive, which means the operators need a supportive local environment to deliver successfully.

There is a wide range of challenges including obtaining wayleaves and planning permissions from unresponsive landowners; securing Streetworks permits, including road closures; lack of accurate data in relation to the location and condition of some existing infrastructure; and high-cost civils causing unpopular disruption to streets and pavements.

One of the solutions is to integrate fibre ducting in transport and other infrastructure schemes where it is feasible to do so, including exploring innovative new solutions such as fibre in water infrastructure and making public sector ducting available to operators on a wholesale basis.

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.)

Connecting Cambridgeshire has highlighted the availability of the empty ducts on a commercial wholesale basis, together with existing public sector ducting and fibre networks.

The policy allows telecoms operators to avoid costly and disruptive retrofitting encouraging them to extend gigabit-capable broadband networks connecting businesses and communities that would not otherwise have access.

Fibre ducting installed under a Causeway as part of the new Kings Dyke level crossing at Whittlesey is being used by commercial telecoms providers to bring gigabit connectivity to around 5,000 homes and businesses that were inaccessible because of the rail lines.

In Cambridge, integrating fibre ducting in a major re-working of a major road junction has allowed gigabit broadband to be rolled out to more premises on the city outskirts.

Under the 'Dig Once' policy, fibre ducting is being installed or planned in several new transport infrastructure schemes across the county with more in the pipeline.

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

Supporting quote from CityFibre:

Rebecca Stephens, Regional Partnership Director at CityFibre, said: "Connecting Cambridgeshire's Dig Once policy has proved invaluable in speeding up the rollout of gigabit broadband. Having accessible ducts already in place saves time, cost, and is better both for the environment and the community as it avoids repeated construction works in the same area. By working collaboratively, CityFibre is able to bring gold-standard broadband to even more residents, giving them access to a fast, reliable full fibre network to support their business, household or entertainment needs."