

Broadband rollout trial to target hard-to-reach homes through UK's water pipes

- Three-year project to accelerate rollout of broadband and mobile signal in rural areas
- Scheme also aims to help reduce leakage from the public water supply

Fibre broadband cables could be fed through the country's water pipes as part of the government's plan to speed up the nationwide roll out of lightning-fast broadband and mobile coverage in rural areas.

Four million pounds is available for cutting-edge innovators to trial what could be a quicker and more cost-effective way of connecting fibre optic cables to homes, businesses and mobile masts, without the disruption caused by digging up roads and land.

Civil works, in particular installing new ducts and poles, can make up as much as four fifths of the costs to industry of building new gigabit-capable broadband networks.

This new scheme could turbocharge the government's £5 billion Project Gigabit plan to level up broadband access in hard-to-reach areas as well as the £1 billion Shared Rural Network which will bring strong and reliable 4G phone signals to many of the most isolated parts of the country.

Digital Infrastructure Minister Matt Warman said:

The cost of digging up roads and land is the biggest obstacle telecoms companies face when connecting hard-to-reach areas to better broadband, but beneath our feet there is a vast network of pipes reaching virtually every building in the country.

So we are calling on Britain's brilliant innovators to help us use this infrastructure to serve a dual purpose of serving up not just fresh and clean water but also lightning-fast digital connectivity.

The project will also look to test solutions that reduce the amount of water lost every day due to leaks, which is 20% of the total put into the public supply. It will involve putting connected sensors in the pipes which allow water companies to improve the speed and accuracy with which they can identify a leak and repair it. Water companies have committed to delivering a 50% reduction in leakage, and this project can help to reach that goal.

Deployment challenges for essential utilities such as water and telecoms are complex and tightly regulated because both are parts of the country's critical national infrastructure. The project will consider these regulatory

barriers as well as the economic, technical, cultural and collaborative challenges and impact on consumer bills.

Any solution used to trial fibre optic cables in the water mains will be approved by the Drinking Water Inspectorate (DWI) before being used in a real world setting. The DWI requires rigorous testing ahead of approving any products that can be used in drinking water pipes, and fibre has already been deployed in water pipes in other countries such as Spain.

The government is already considering giving broadband firms access to more than a million kilometres of underground utility ducts to boost the rollout of next-generation broadband – including electricity, gas and sewer networks – and will soon respond to a consultation on changing regulations to make infrastructure sharing easier.

The government has already given broadband suppliers access to existing infrastructure to help speed up roll out, with electricity poles used extensively throughout England to carry broadband cables.

Stephen Unger, Commissioner at the Geospatial Commission, said:

Fibre is the future of digital communications. Its unmatched performance and reliability can seamlessly connect our society together. But it took over a hundred years to build the legacy copper network, so replacing it with fibre won't be easy.

The best way to meet this challenge is to use existing infrastructure, such as the water pipes that already reach every home and business in the country. Our ambition must be for reliable broadband to become as easy to access tomorrow as drinking water is today.

The Fibre in Water project is due to conclude in March 2024. The final year of the project will explore scaling proven solutions right across the country.

Deadline for applications to the competition is 4 October.

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The government has launched a competition to select a consortium, which could comprise telecoms companies, utility providers and engineering companies, to lead and deliver the project. As part of this, a region or multiple regions of the country will be selected to host the trial.

The Fibre in Water competition is being run by the Department for Digital, Culture, Media and Sport in partnership with the Department for Environment, Food and Rural Affairs, Department for Business, Energy and Industrial Strategy and the Geospatial Commission