

# Tech Companies Work Together To Build The World's Most Connected Homes In Dublin

Service outages and issues from their only provider option, combined with a lack of high-speed internet options in some neighborhoods, left four Dublin, Ohio, families frustrated. They sought a better solution that might have a beneficial impact on their entire community. Hearing their experience, six of the nation's top smart home technology companies joined forces to create connected, fully automated homes to test innovative ways to solve the digital divide.

Elysian, TRAXyl, Integrated Smart Homes, AECOM, Nokia and Fishel collaborated with Connected Dublin, a City of Dublin-led initiative, to dramatically increase internet connection speeds and in-home technology. The pilot program, called "Fiber to the Home," resulted in the families being able to navigate the broadband demands of working from home and operating highly-connected and automated households.



"Fiber to the Home" brought unapparelled internet speed and remarkably effective artificial intelligence (AI) technology to the four participating families in Dublin. It also outfits homes with ample broadband for new, sophisticated technologies on the cusp, including 8K televisions, virtual reality workplaces and more.



City of Dublin

ECONOMIC DEVELOPMENT

## Key Facts:



Four homes are currently participating.



The technology uses armored fiber-optic cable that is “painted” on the ground’s surface. A single strand has incredible tensile strength, like steel, but is as thin as a human hair.



Figures show “painting” fiber-optic cable can cost 70% less than traditional trenching or boring.



It is aesthetically pleasing – there are no poles and the cable blends into the ground’s surface.



Installation is non-obtrusive, unlike other methods. It is just a small slice in the yard.



Rapid installation takes hours or days instead of weeks or months



It results in extremely higher-level connectivity for residents. The new chipset Quillion is the only solution on the market that supports three generations of fiber PON technologies on a single hardware. (the three PON are: GPON, XGS-PON and 25G PON)



Installation of sophisticated full-home automation offers residents the ability to verbally command lighting, temperature changes, doors to close or fridge to switch settings, to name a few.



Fiber offers symmetrical bandwidth



The use case highlights how 1 Gbps and 10 Gbps can use the same infrastructure



Passive optical technology consumes less energy and has a longer life span.



The infrastructure supports decades of bandwidth growth.



## Solving Challenges

Fiber to the Home is a critical pilot, recognizing high-speed internet is a necessity, not a luxury. In Ohio, roughly one million people face a high-speed barrier. This pilot is on the frontline, pioneering for all. There is no cost to the four Dublin homes currently participating. The City of Dublin and private corporations have partnered to cover the costs to date. State funding is being considered and several federal bills have passed that may also assist in covering the expenses of innovative fiber installation. The \$1 trillion federal infrastructure bill and the Department of Commerce made available \$288 million for the deployment of broadband infrastructure starting in 2021. The technology team built in Dublin is offering the framework for large-scale solutions.

*“The internet is the next utility, providing access to services and education and other tools that facilitate someone’s growth within a community. Growing families’ connectivity helps the community then grow. This new method could allow more people all over to get better capabilities by painting the fiber to the road home.”*



Shaun Harker  
**Technology Solutions Leader, AECOM**



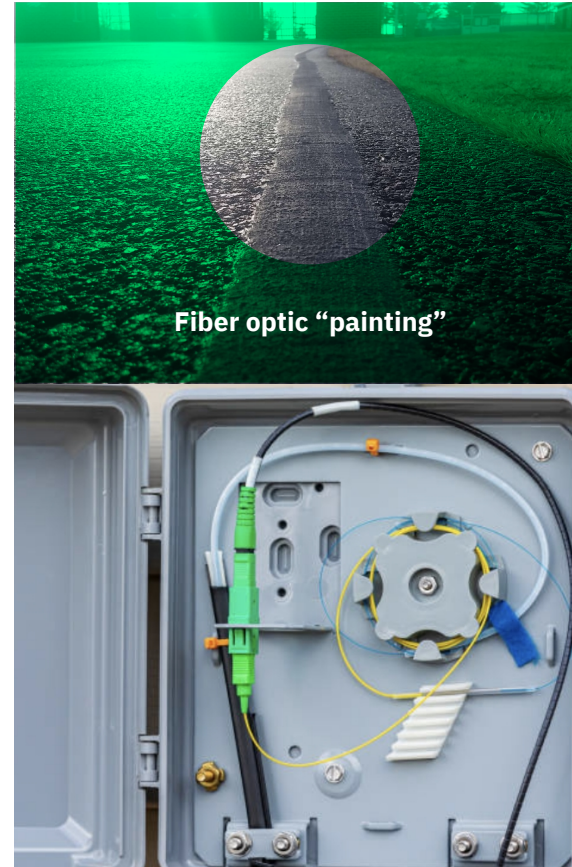
# Our Approach

Achieving the vision required each partner company to bring unique solutions and ingenuity to the table.

TRAXyl offered the first minimally disruptive installation (MDI) alternative by “painting” optical fiber directly onto paved surfaces, bonding and sealing it in durable protective coatings. The process involves zero digging, trenching or cutting into other utilities. The painted fiber is immune to lightning strikes and power surges. Unlike existing copper wires, it can transmit the 8K, ultra high-definition technology some high-tech devices demand. This plots out better internet from the street to each device a resident could want in their home.

From there, Elysian installed minimally invasive, fiber-optic broadband in each of the four homes. Integrated Smart Homes installed a new kind of AI technology (called JOSH), developed by a former NASA employee, that responds to full sentence voice commands. Nokia provided its next-generation equipment to better allow homeowners to work, operate their home systems and use many devices with lightning speed.

The cost to the subject homeowners? Zero—as the private companies and the City of Dublin invested fully in the project.



Doug McCollough  
CIO, City of Dublin

*“Connected Dublin is all about testing and utilizing technology to improve lives and experiences for our residents, workforce and visitors. The project is already demonstrating the positive impacts this cutting-edge home technology can have in a household. We are dedicated to making lives better and building systems in our communities to ensure Dublin is the most connected city in the U.S.”*



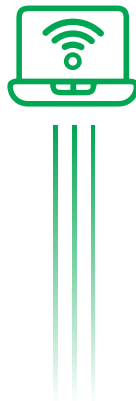
# The Outcomes

Dublin's "Fiber to the Home" pilot began in June 2021 and is ongoing as the project partners gather data. This study will inform the feasibility of fiber connected home automation systems in Dublin, the state of Ohio and has opportunities for families well beyond.

The companies are also now looking to take this model and replicate the offering to other municipalities and into other counties, including rural areas, because what Connected Dublin and its partners have brought together is tried and true.

## Key Outcomes

Each home is experiencing increased internet connection speed, less frustration with bandwidth limitations, and a much less intrusive installation process than a traditional cabling infrastructure installation.



The pilot is showing solutions in dismantling the digital divide. As connectivity has become a necessary utility like water and electricity, this broadband utility demonstrates the ability to serve residents and businesses for years without replacing infrastructure.

## About Connected Dublin

Connected Dublin is a living lab within The Beta District. The Beta District is a high-tech region that stretches northwest along US 33 from Columbus, Ohio through Franklin, Union and Logan counties. It is overseen by a collaborative council of governments, which includes Dublin, Marysville, Union County and the Marysville-Union County Port Authority. The Beta District offers an ecosystem of smart infrastructure and living labs where leaders in all industry sectors can tap into resources and collaborate on groundbreaking projects.

