

Application Note  
“Last Mile” Wireless Network Connectivity  
10 Gigabit Wireless Networks



### About Wireless Excellence

Founded in 1996 and with headquarters in Oxford UK, Wireless Excellence Limited is a leading designer and supplier of outdoor and indoor Broadband Wireless communication products.

With a complete range of solutions including Radio, Microwave, Millimeter-Wave, Free Space Optics, WiFi and 4G/5G/LTE, customers in over 80 countries have chosen Wireless Excellence as the “one stop shop” solution of choice for dependable wireless networking.

## Scenario

Telecommunication operators have made huge investment in fixed infrastructure, providing coverage of urban and industrial areas with voice, data and video services connected usually from a backbone fibre network using copper, fibre or wireless technologies.

Cable digging is increasingly unpopular in cities, and regulated by local authorities who often restrict digging of roads to avoid disruption – costs are often prohibitive, especially if a river or railway is in the way. Using copper telephone lines only provides a few Mbps per pair – too slow for power users requesting Ethernet at 10/100Mbps or Gigabit Ethernet. Cable Modems and xDSL are often not reliable on all installations, depending on the age and condition of the copper cables.

Wireless Excellence solves the problem with high-capacity, highly reliable wireless solutions with low cost of ownership. CableFree products offer up to Gigabit capacity links which are installed in hours, not weeks.

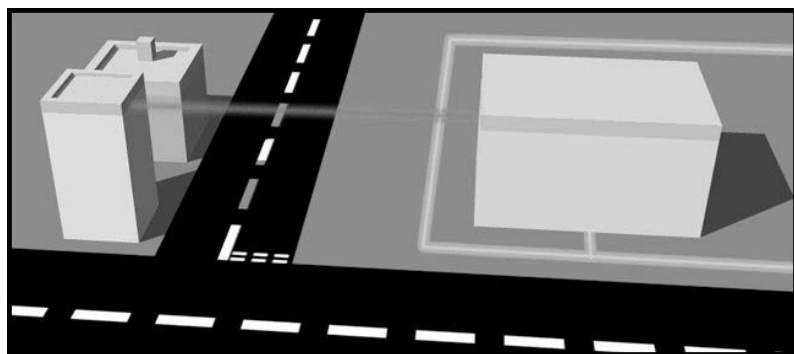
## Solution

A CableFree wireless solution offers the following features and benefits:

High Performance	Gigabit Ethernet (1.25Gbps) using FSO, 4Gbps using Microwave, 10Gbps using MMW, 550Mbps using Radio
Rapid installation:	3 hours achievable, 15 minutes temporary
Highly reliable:	99.999% availability achievable
License-free Operation:	No fees to pay on license free bands
No monthly rental fee:	Low maintenance solution
Diverse technology options:	Complete range of FSO, Broadband Radio, Microwave, MMW, WiFi
Fully manageable:	Advanced software tools
Resilient solutions:	1+1 Hybrid FSO+RF resilient link options
Highly Secure:	Proven inherently secure technologies
Low Total-Cost-of-Ownership (TCO):	Moveable asset
Safe & Environmentally friendly:	Low disruption during installation

CableFree products are field-proven, with thousands of deployments in over 80 countries since 1997. Excellence in performance and reliability are not sacrificed in providing highly competitive priced solutions together with a comprehensive range of support services.

## Application Diagram



Two or more vehicles or buildings are connected by CableFree wireless products. Clear Line-of-Sight (LOS) for FSO or Near-Line-of-Sight (NLOS) for radio is required.

The customer data (video, data and/or voice) is connected to the wireless units which can be mounted on tripods, rooftops, towers, poles or behind windows.

For permanent installation a site survey is recommended before installation, to determine suitable mounting points, location of cable runs etc.

Installation involves physically mounting the equipment, aligning it, connecting data and power circuits and commissioning.

## Recommended Products

CableFree Access FSO	FSO Connectivity up to 155Mbps, range up to 4km
CableFree Gigabit FSO	FSO Gigabit Ethernet and Fibre Channel up to 2km
CableFree AC-MIMO	Radio links up to 550Mbps, range up to 40km
CableFree MW	Licensed Microwave links up to 4Gbps, range up to 100km
CableFree MMW	60/70GHz Millimeter Wave links up to 10Gbps, range up to 10km

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## For More Information

Please contact Wireless Excellence Ltd for information on the complete range of CableFree products and services

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