



FREE GUIDE

Benefits of dark fibre.

Why owning the fibre beats renting a leased line — and **how to find** dark fibre for your route.

SICOM CONNECTIVITY SICOM.UK FREE GUIDE

What **is** dark fibre?

Dark fibre is simply an optical fibre link that isn't "lit" by a carrier. There's spare fibre sitting in roadside cabinets and exchanges, waiting to be lit and turned into a managed service.

Optical fibre carries signals of light — light or no light, the 1s and 0s of binary. In a 1Gbps link, the optic is turning a laser on and off **a billion times a second**. A 10Gbps optic flashes **10 billion times a second**.

Carriers like BT use optical fibre for their networks, connect your building to it, supply all the optics and switching gear, and run the service. That's "lighting the fibre".

So why would you light **your own** dark fibre instead?
Eight reasons.

Eight benefits of a dark fibre network

Cost savings

Lowest total cost of ownership — especially if you buy the fibre, eliminating recurring fees with RPI increases.

High bandwidth

Exceptionally high capacity. Move large volumes of data at very high speed across your network.

Low latency

Important for real-time work — financial transactions, cloud services that need rapid transfer.

Scalability

Virtually unlimited. You control the fibre, so you upgrade capacity without waiting on a third party.

Flexibility & control

Design and configure the network to your needs. Change things when you want to — not when a carrier is ready to.

Reduced downtime

Design a resilient ring with diverse access into each site. No carrier kit or data centres in the path to cause outages.

Enhanced security

Full control of security. Encrypt at Layer 2, and install sensors that tell you if the fibre is disturbed.

Future-proofing

A robust foundation for what's next — IoT, Big Data — without infrastructure changes.

When dark fibre **passes the business case**

It's worth it if you have **some** of these. Cost is mostly about distance — longer runs need more of these reasons to justify them; shorter runs need fewer.

- You want to connect **two or more buildings** in the same town.
- You can amortise the cost over **5 years or more**.
- You have or need **higher (10Gb, 100Gb+) or multiple** bandwidths.
- You need flexibility to change bandwidth or add services over time.

Use it for more than data

- Centralised security & access control
- CCTV cameras & managed WiFi across sites
- Building Management Systems
- Simplifying firewalls into a single access point

Two buildings, one town

DISTANCE	Two buildings in the same town
TERM	At least 5 years left on the building leases
BANDWIDTH	1Gbps today, more over the life of the tenancy
APPLICATIONS	Shared server access, shared internet, internet diversity / resilience

WITHOUT DARK FIBRE

Two of everything, plus complexity

Connect each building to the internet separately. For resilience that's two diverse connections per site, four routers, four firewalls — then internal data (big CAD files) crossing the internet, plus VPNs for security. It all adds cost and complexity.

WITH A DARK FIBRE LINK

One network, two internet feeds

A simple fibre link between the buildings: just two internet connections, with separate links for staff access, WiFi, security and BMS. Treat both sites as one — centralise IT, monitor building access remotely, let staff roam between sites on one WiFi. A leased line would mean fixed bandwidth, less security and inflation-linked rises every year.

Three ways to get dark fibre

Lease a fibre pair

The simplest route. Lease dark fibre (usually a send/receive pair) over 3, 5 or 7 years, paying monthly, with support for failure or repair included.

Buy an IRU

A long-term lease with an up-front payment and a small annual support fee. Over 10, 20 or 25 years an Indefeasible Right of Use lets you treat it as an asset on your balance sheet, depreciating like a building. Most cost-effective when connecting buildings you own or hold long.

Have a cable installed

A dedicated cable linking your buildings — in a new duct, or across private land. Choose 4 to 400 fibres (we usually install 12 or 36). Selected providers can now install in Openreach ducts under licence — far cheaper than digging up the road, with a small annual duct charge in your support cost.

First step: engage a specialist who can examine every option, install cable, lease fibre, integrate multiple providers and supply the equipment. Note BT and Openreach don't sell their fibre in most cases — rural exceptions are set by OFCOM.

It isn't sold everywhere — so we find it

The traditional carriers

Limited in the UK, and focused on data centres and national core routes — but useful in city centres. We can connect you to them even if they're not right outside.

The alt-nets

A growing amount of fibre is being installed by alternative networks for their FTTP services. They don't always sell or lease it as dark fibre, but many do — and we can join their networks together to make the connections you need.

Openreach

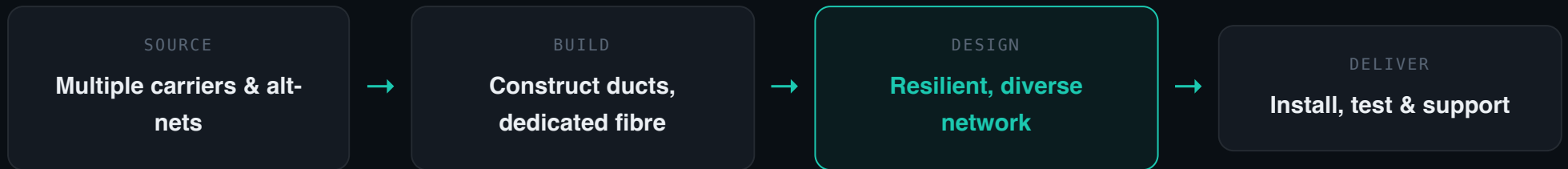
Doesn't sell or rent dark fibre generally. OFCOM has mandated it in some postcode areas with very specific rules — we can check your addresses and supply it where applicable.

No dark fibre in your street? We can build a new duct, or install a cable dedicated to you in Openreach ducts under licence. **None nearby at all?** We design with Dedicated Fibre — lit by a carrier but with all the benefits of dark fibre (bar outright purchase), using alien wavelengths at 1Gb, 10Gb, 100Gb or 200Gb.

— THE ROLE WE PLAY

The fibre **integrator**.

Dark fibre's benefits only land if someone sources it, joins it up and supports it. That's the integrator's job — and it's ours.



— FREE INITIAL CONSULTATION

See what we can do for your connectivity.

[sicom.uk](https://www.sicom.uk)

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