

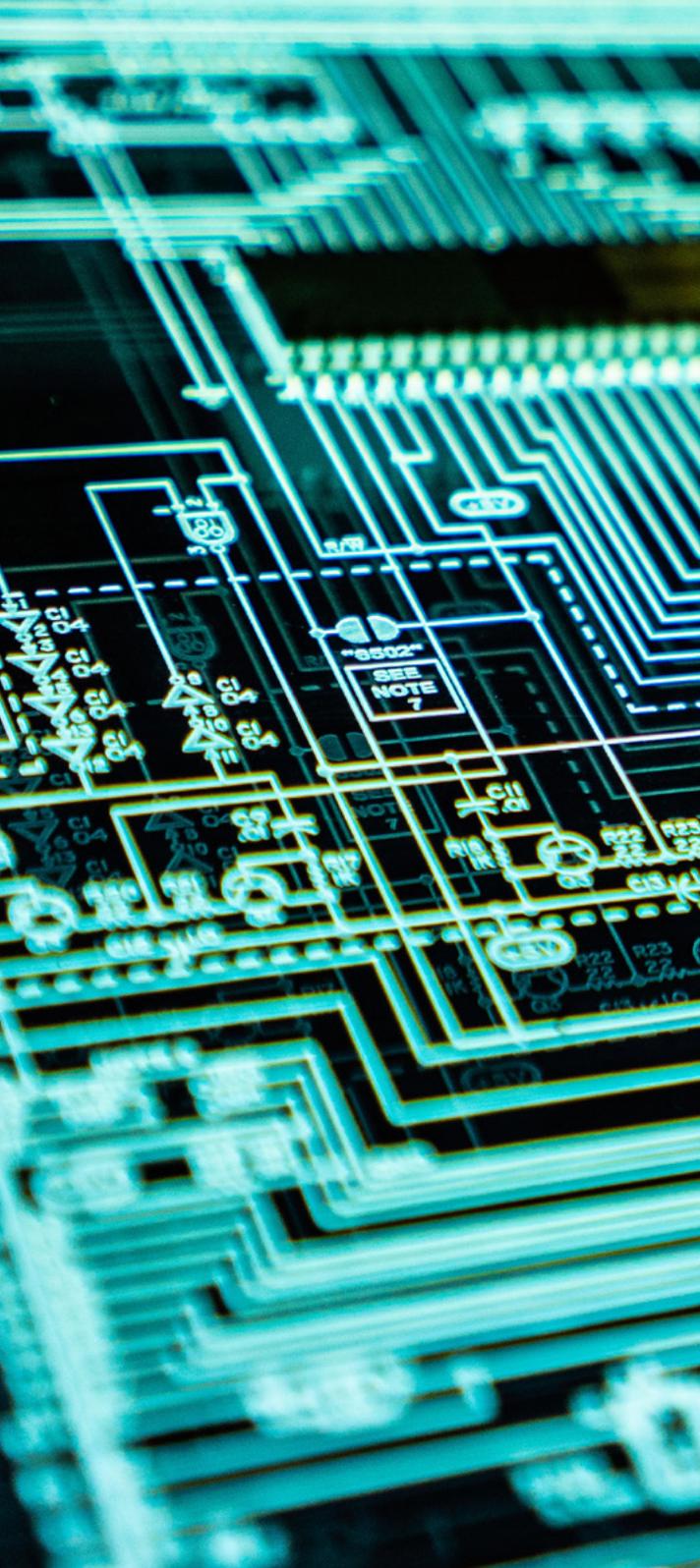
Vaioni's Basic Guide to Connectivity

Everything you need to know about
modern connectivity



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As you'll be all too aware, fast and reliable connectivity is central to modern business.

That was true before the Covid pandemic, and it's even more so now. The vast majority of businesses are doing more online today than they were two or three years ago. Digital transformation is no longer a trite phrase or vague ambition. It's increasingly a business necessity.

Much of what we're doing online is central to the functioning of our organisations. We communicate and collaborate with VoIP, video conferencing and chat.

We tempt customers with slick websites and seal the deal with fast, polished e-commerce stores. Many back-office functions - from bookkeeping to account management - are achieved via tools hosted in the cloud.

Everything from stock control to data analysis is now tasked to connected digital tools and apps, and we've barely scratched the surface of what

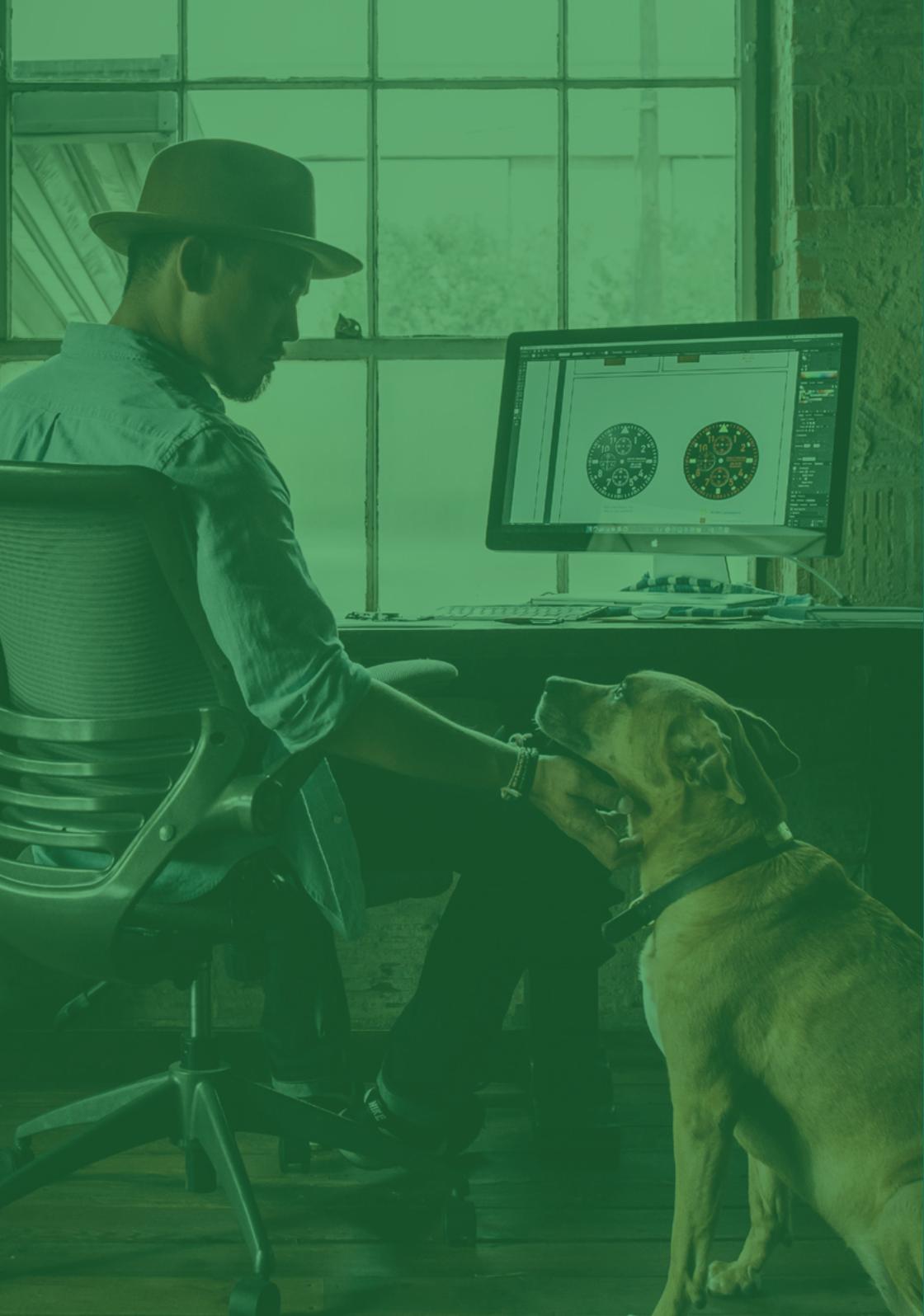
AI, VR and the Internet of Things (IoT) can do.

We could go on, but suffice to say that businesses' reliance on being online is only going to grow.

This brings huge opportunities, and one very significant risk. If you don't have the right connectivity, you can't keep up.

Cloud-based Software as a Service (SaaS) solutions in particular are filtering through all strata of business, bringing enterprise-grade applications to SMEs and even small offices and one-man bands. They're levelling the playground and allowing smaller businesses to compete with large competitors on equal terms. But only if they have the connectivity to match their digital ambitions.

In the rest of this guide, we'll look at what your connectivity options are, and what you need to think about before deciding whether to upgrade your internet connection or stick with what you've got.



The four main flavours of connectivity

Connectivity options can sound complex, but in practice there are four main ways of getting online.



Standard broadband

Also known as ADSL or, more likely, ADSL2, standard broadband is the oldest and cheapest broadband option around. With ADSL, digital traffic travels across copper telephone wires all the way from the internet to your premises. While it's cheap and widely available, ADSL is also the slowest of the mainstream connectivity options, with maximum download speeds up to around 20Mbps. Even then, most businesses won't achieve those maximum speeds.



Superfast broadband

Also known as Fibre to the Cabinet (FTTC) or hybrid fibre, superfast broadband uses fibre optic cables to carry digital traffic from the internet to your local exchange. Data then switches onto copper wires for the short hop to your premises. The fibre part of the journey ups speeds significantly, to a maximum download of around 80Mbps. But the continued reliance on copper wiring for the last stretch means speeds slow down the further you are from the exchange.



Ultrafast broadband

Ultrafast broadband usually refers to full fibre (FTTP), though it can also mean a hybrid technology called G.fast. Download speeds start at 100Mbps but can go up to 1Gbps and more. Many ultrafast services currently offer maximum speeds of around 300Mbps, but you can get more if you want it. With full fibre, data travels on fibre optic cables all the way from the internet to your premises, which means you don't suffer any slowdown for being further away from the exchange. Full fibre is currently the gold standard of broadband connectivity.



Leased lines

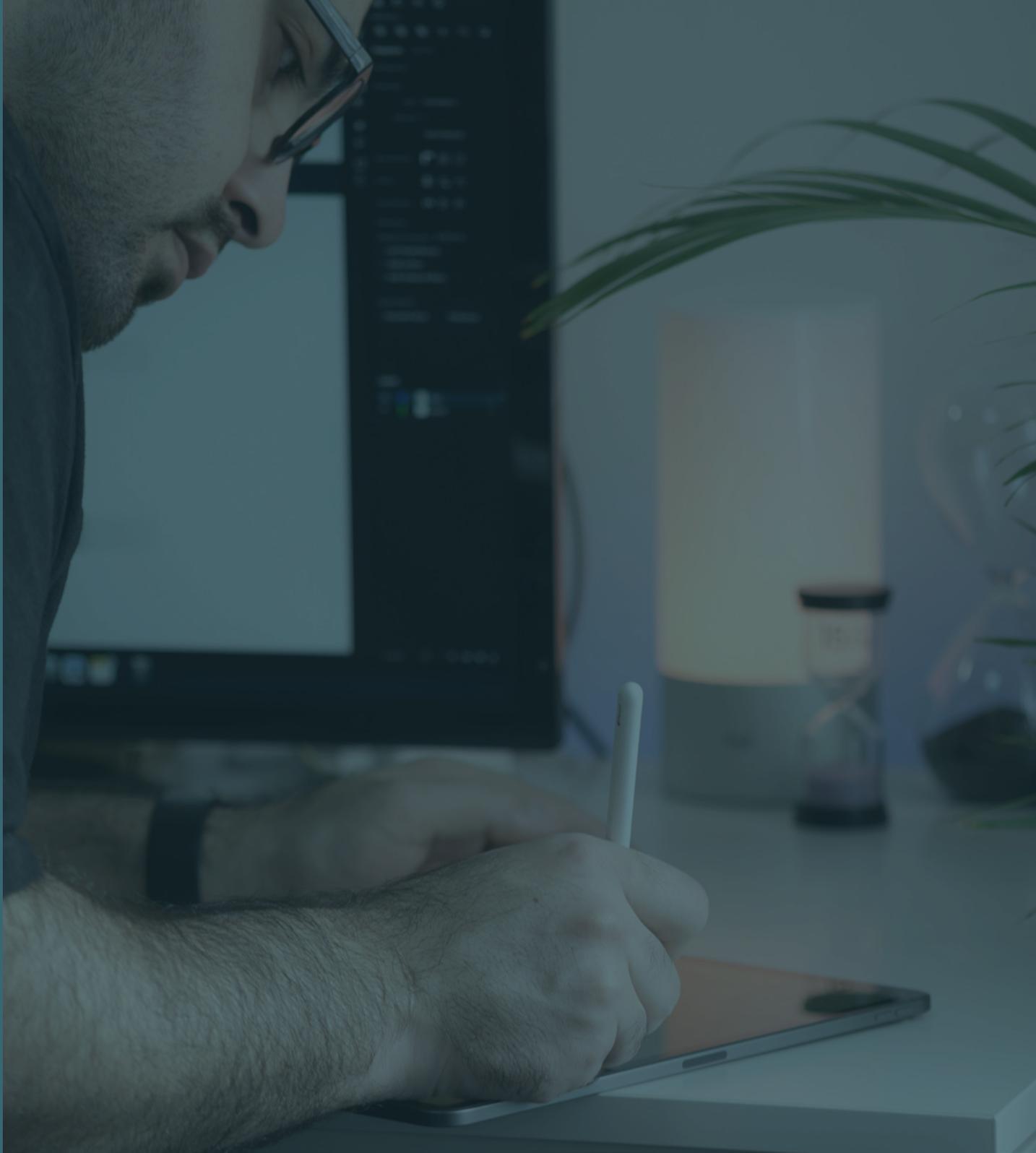
Whichever broadband you choose, your data will use the same lines as other businesses in your area. By contrast, leased lines provide a dedicated connection for your exclusive use. That means they're uncontended (there's only your traffic on the line) and symmetrical (you get the same upload and download speeds - which is great for VoIP and video calls). Leased lines are reliable, and the speed, uptime and repair times set out in Service Level Agreements (SLA) are usually more stringent than broadband equivalents. The exact speed you get will depend on the type of leased line you choose:

Leased lines (continued)

- **GEA** is the most cost-effective leased line for small offices with moderate bandwidth demands, offering upload and download speeds of up to 20Mbps. GEA is quick to implement and uses an FTTC-enabled exchange, with copper over the last mile.
- **EFM** is a good choice for small and medium-sized offices, offering upload and download speeds up to 35Mbps. It's faster than GEA and quicker to implement than Fibre, and is available even if you don't have a local FTTC-enabled exchange.
- **Fibre** is the ideal choice for larger offices or any business with high bandwidth demands, offering ultra-reliable speeds of between 1Mbps and 10Gbps. Fibre is the right option for businesses that need guaranteed, high performance connectivity.

Fibre vs Copper

With broadband in particular, the general rule is that the more fibre your connectivity contains, the better it will be. Fibre is both faster and more reliable than copper, and though many small businesses remain on ADSL, the vast majority are likely to upgrade to a fibre alternative sooner rather than later. The difference in cost between the two is now minimal, making the benefits of fibre hard to ignore.



What to consider when choosing your connectivity

So what connectivity solution is best for you? It depends on factors like your size, your degree of reliance on the internet, and any growth plans you might have. Things to consider include:

Users

It's about the size of your business, but more than that it's about the number of employees that are likely to be using the connection at the same time. Depending on what you use the connection for, a very small office might make do with an ADSL connection. For anything more than that, you probably need fibre (or at least a dedicated copper-based leased line).

Uses

Of course, it's also about what you use the connection for. Some businesses naturally use more online tools, and some services are more data-hungry than others. But it's worth remembering that nearly all businesses are using more than they used to, and while email and web browsing don't take up much bandwidth, video conferencing and running an e-commerce store do.

Reliability

How serious would it be for your business if your connectivity went down for any length of time?

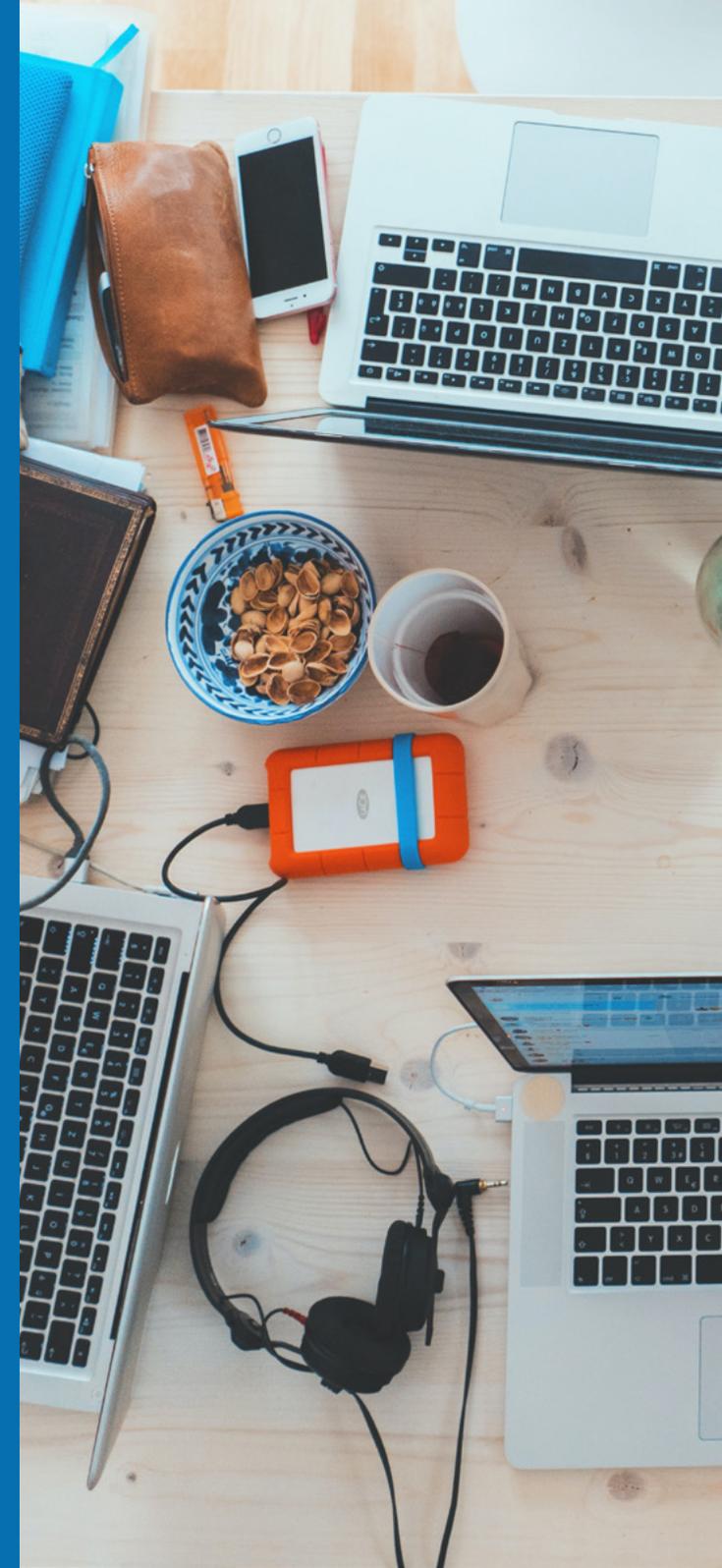
Fibre is generally more reliable than copper, but if the answer to that question is that it would be disastrous, the fix time guarantees offered with leased lines might be worth the extra cost.

Cost

Typically, ADSL is the cheapest internet option, and leased lines, because they're uncontended and come with more stringent SLAs, the most expensive. Predictably, ultrafast full fibre is pricier than superfast FTTC. It's worth remembering that ultrafast is not yet available across the UK, though the rollout continues apace.

The future

Is your connectivity future-proof? Don't just think about what you use it for now, think about what you might want to use it for next year, or in three years' time. You might want to accelerate digital transformation, equip more hybrid (semi-remote) workers, or invest in big data tools or the Internet of Things. And remember, the ISDN switch-off isn't far away, which means businesses that haven't made the move already will soon be forced to upgrade to internet-based telephony, putting further pressure on corporate networks.



Back-up connectivity

If connectivity is crucial to your business, it's worth considering adding a back-up option to your fixed line solution. That's often accomplished with a 4G data service, which kicks in if your fixed line internet drops out and keeps you operational even in emergencies. 4G can also be used as an alternative to stretched consumer-grade internet connectivity for remote workers.

Not sure what you connectivity you need?
Unsure if you require back-up connectivity?
Don't worry, we're here to help.

Get in touch with us on 0161 672 9900

Is it time to upgrade?

So, do you need to upgrade now? If your bandwidth is already stretched, and you suffer from slowdowns or dropouts more frequently than you'd like, the answer is certainly yes. If any of the scenarios below apply, you should at least consider upgrading your connectivity.

- Your business is growing
- You need to connect a growing number of remote workers
- You need to reliably connect several sites or branches
- You need guaranteed VoIP or video call quality
- You use a growing number of cloud-based services or applications
- You can't afford to be offline

The takeaway

Choosing the right connectivity is one of the most important business decisions you can make, because being online is increasingly crucial to everything your business does. Extended periods offline, files that download at snail pace and stop/start video calls aren't an option for modern digital businesses.

With that in mind, it's clear that all-copper ADSL broadband no longer has the speed or capacity to meet the needs of the vast majority of organisations. We would strongly advise even micro-businesses with a growing reliance on the internet to think about an upgrade to FTTC sooner rather than later. Make the switch before it's forced on you by dropouts, slow downs and stuttering services.

Larger SMEs and heavier internet users will benefit from ultrafast options like FTTP or G.fast, though they're not universally available just yet. Leased lines, meanwhile, offer the most reliable speeds and fastest fix times for businesses that are happy to pay for the extra reassurance.

If you're not sure about the right connectivity for you, Vaioni can help. We offer a full range of connectivity solutions, designed with the needs of SMEs in mind. Our specialists can assess your usage and suggest the most appropriate solution for you, based on current requirements, future plans and affordability. Our own ultra-reliable Vaioni Ethernet Network (VEN) connects all major cities and towns throughout the UK.

Vaioni also offers communications and security services, so we can design a complete end-to-end digital infrastructure that precisely meets your needs. If you'd like to know more, please get in touch.