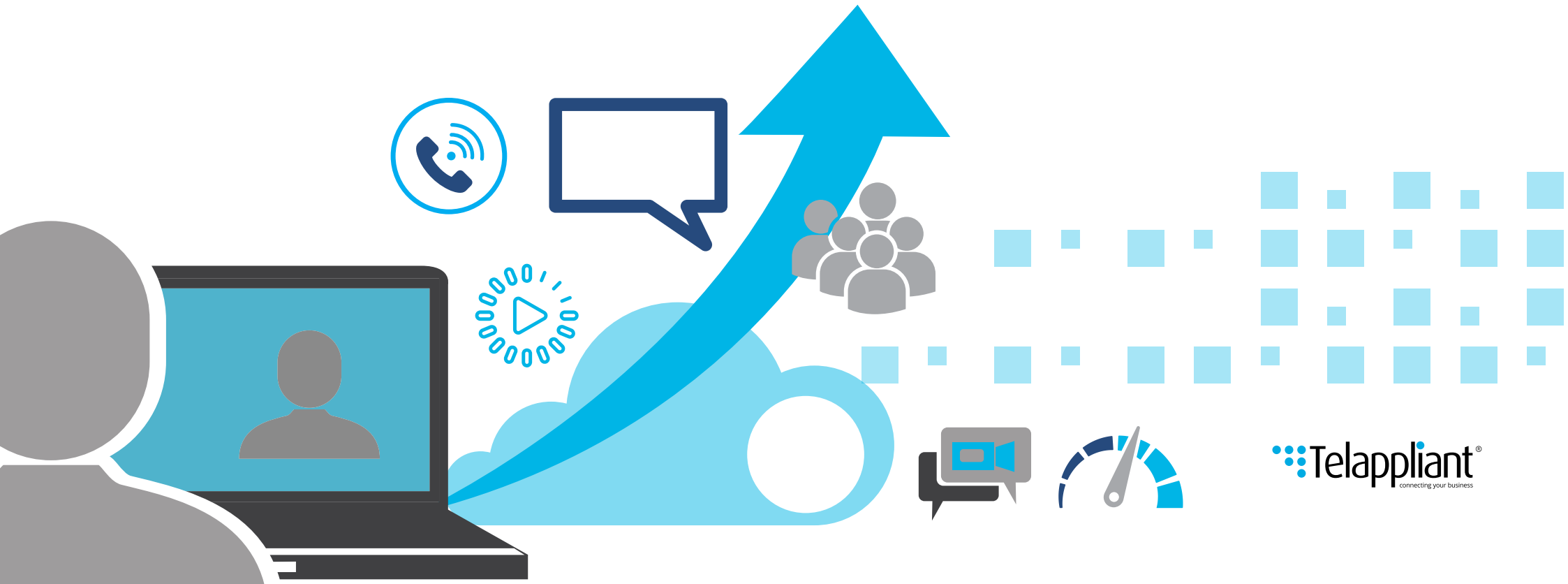


# The SME Business Guide to Connectivity

ENHANCE THE WAY YOUR BUSINESS GROWS





# INTRODUCTION

How does your organisation connect with its customers?

Technological advancements have increased demand for better, faster ways to communicate within organisations. Businesses may have clients who are based in different countries, or employees who work remotely from different places or other offices around the UK.

But what else can drive demand for faster connections? Office 365, cloud services, and apps for unified communications and video conferencing. The faster and better your internet connection, the more connected you'll be with your customers, suppliers and employees.

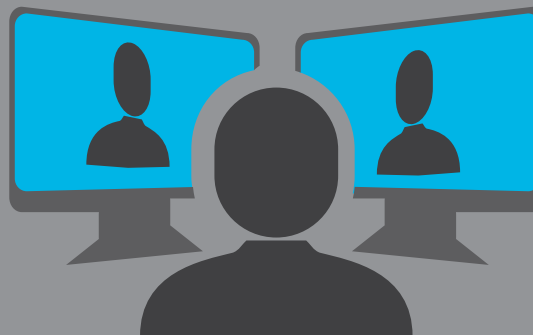
Let's think about video conferencing apps. These solutions are an ideal way to contact people face to face without travelling and have the capability for group calls with or without video. For optimum performance, some systems have the following need:

## 1-on-1 video calls



- 600kbps (up/down) for high quality video
- 1.2 Mbps (up/down) for 720p HD video
- Receiving 1080p HD video requires 1.3 Mbps (up/down)
- Sending 1080p HD video requires 2.8 Mbps (up/down)

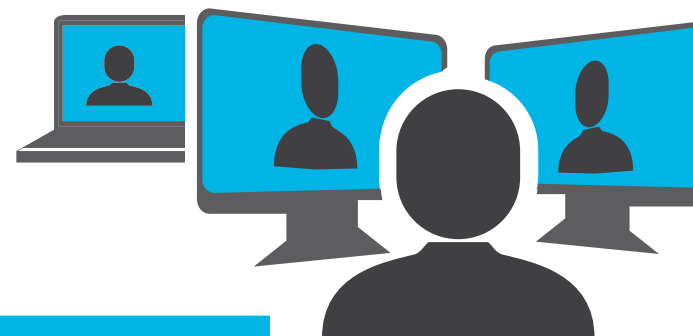
## Group video calls



- 600kbps/1.2 Mbps (up/down) for high quality video
- For gallery view and/or 720p HD video: 1.5 Mbps/1.5 Mbps (up/down)
- Receiving 1080p HD video requires 2.5 Mbps (up/down)
- Sending 1080p HD video requires 3.0 Mbps (up/down)

**As an example**, if you wanted to share your screen on a video call, you could need approximately 50-75kbps. That might not always support video thumbnails though - to support these, you'd probably need around 50-150kbps. In addition to that, audio VoIP would require an amount closer to 60-80kbps. And what's more, this example would be per participant. If multiple participants are in the office and using this service, the bandwidth requirements soon add up.

If you've already got a VoIP system and you're using an internet connection that's heavily loaded, any peak demands may affect the performance of your phones. One way to solve performance issues is to deploy a faster connection and make smart use of the available bandwidth.



Allocating a dedicated section of your business' bandwidth for video conferences will protect service integrity and promote efficiency.

You can segment or partition your connectivity in this way by letting certain apps use certain bandwidths. For instance, you might cap internet traffic at 5-10 Mbps, allowing the remaining amount to be used for video conferencing.

While you make these changes to how you apportion bandwidth smartly within your business, it's important to consider what you want to achieve from doing so. Speed? A given. How about the following?

- Agility
- Flexibility
- Reliability



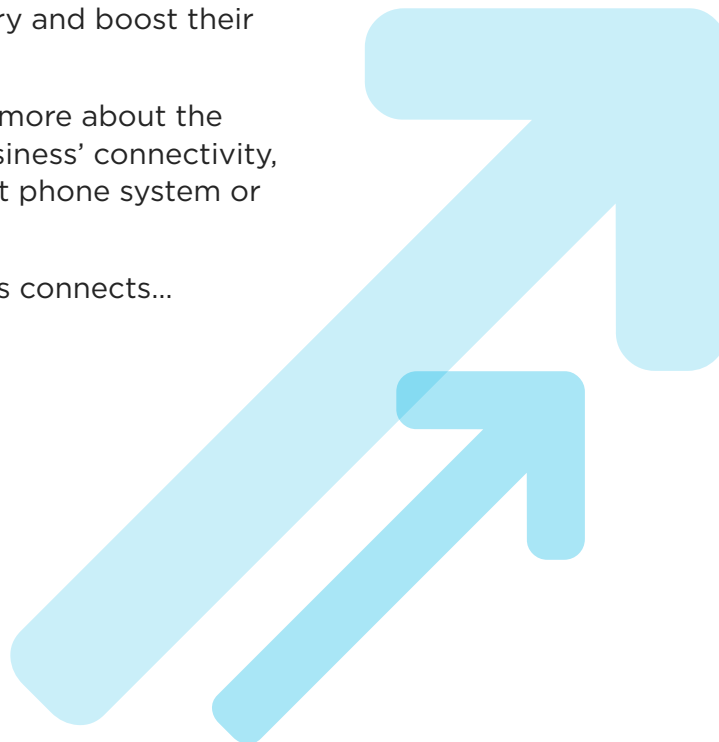
Software Defined Networks (SDNs) offer flexible bandwidth.

Your employees will benefit from more reliable connections, giving them better access to the internet in order to fulfil their roles. You'll reap the benefits of a business grade internet connection, which outstrips the performance of standard broadband services.

In terms of flexibility, Software Defined Networks (SDNs) offer flexible bandwidth. If you have a short-term requirement to deliver a large amount of media work, Telappliant can raise your bandwidth temporarily within 24 hours. In a world where real-time, on-demand solutions dominate, it can be challenging for SMEs to balance growth with resource. From our point of view, SMEs should invest in technologies that can help them gain a competitive advantage in their industry and boost their digital growth long-term.

Throughout this guide you'll discover more about the different ways you can boost your business' connectivity, whether it's investing in a new internet phone system or migrating your services to the cloud.

Start enhancing the way your business connects...



You'll reap the benefits of a business grade internet connection, which outstrips the performance of standard broadband services.

# INTERNET SOLUTIONS

Many organisations benefit from leased lines, which are business-grade internet services and a step up from traditional broadband connections. Where those historic connections were limited to being shared between businesses, known as contended at the exchange, and then shared again with employees thus decreasing bandwidth, leased lines guarantee a constant speed that is uncontended delivered to your premises.

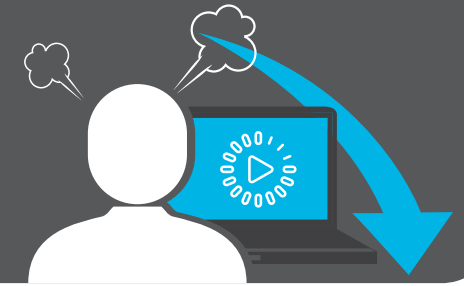
## But why is this important?

Your business may not be at the stage of multi-site considerations yet, but you may have a bigger need for multi-user connectivity. The more your business grows, the more people you need to employ. And, the more people you employ, the bigger the need for better connectivity.

An example of this would be the requirements of employees known as knowledge workers. Knowledge workers are employees who consume information and research, with the intention of consolidating their findings into different outputs, whether that's an article, a report, or some other type of service. If your business depends on knowledge workers, you need to consider your connectivity and whether investing in leased lines could improve your knowledge workers' efficiency.

As your business grows, the more knowledge workers you bring in. Each knowledge worker needs a fast and efficient slice of your internet bandwidth to do their job.

**Poor connection =  
lack of knowledge  
worker efficiency**



With every digital transformation comes the need for more services appearing on the desktop, and even more consumption of cloud services. Many businesses are focusing on knowledge workers and how to keep them motivated with efficiency and productivity levels. For instance, businesses within the financial sector may be entirely based on knowledge workers. It's about having the technological capacity to provide the tools knowledge workers use.

### What's more, leased lines will also guarantee:

- High bandwidth
- Improved security and privacy
- Fast, symmetric access to the internet
- Uninterrupted internet connection

If you're wondering about the **reliability** of **leased lines**, we have an SLA in place which guarantees that we will **fix any problems within 7 hours** and will provide you with **24/7 assistance** from qualified engineers.



Leased lines serve as part of a move towards a better-connected future for the country. Running over fibre optic technology, leased lines are a more sophisticated option for transferring large amounts of data. Reliable and fast, most core networks are based on fibre due to its high-speed and capacity. Something every knowledge worker could benefit from having access to.

If we think about how the country is transforming in terms of connectivity, let's consider the "Full Fibre Britain" campaign from Openreach.



According to Openreach: "At present **Openreach's** existing "**Fibre First**" strategy aims to build "**full fibre**" broadband out to cover 3 million homes and businesses by the end of 2020 (i.e. March 2021 financial) and they also have an ambition to reach 10 million by around 2025".

### How far away are we from reaching "**Full-Fibre Britain**" status?

As each city within the UK undergoes the update to fibre, they become known as "Fibre Cities". So far these include Birmingham, Bristol, Edinburgh, Liverpool and Swansea ([Openreach.com](https://www.openreach.com)).

It's interesting to consider how businesses are making the move towards better connectivity. Our previous publication, [Your Guide to the ISDN Switch-Off](#), details the shift in connectivity regarding PSTN and ISDN lines being phased out, urging businesses to consider alternatives to the old copper lines.

**Researching leased lines?** We've got some pointers on the types of business needs that align with the demand for this type of service:

- If you require a faster connection that is steady, quick and uninterrupted
- If you need reliable internet access across a variety of sites and users
- If you need to adjust your bandwidth during busy periods

[Find out more about how our leased lines work](#)

### **But what about other internet solutions?**

We have alternatives to leased lines, offering you a different way to boost your business' connectivity. If you're a smaller start-up business, ADSL, FTTC or FTTP broadband could be the right solution for you. Or how about exploring ethernet to secure voice connections? Learn more in our [Complete Guide To Business Internet Connections](#).

With internet solutions, there is also the question of security. Any internet application is vulnerable to malicious cyber-attacks, malware, viruses and ransomware. It's best to consider your security options when deploying new connectivity solutions, whether it's new anti-malware measures or a security solution from a provider.



consider your security options when deploying new connectivity solutions



## PHONE SYSTEMS

If your business hasn't made the move to VoIP yet, now is the time to act. It's common knowledge that ISDN and PSTN copper lines are being phased out, so if you've got voice traffic on those currently then you'll need a sufficient internet connection to replace them.

VoIP stands for "voice over internet protocol" and is a phone service that runs over an internet connection. The benefits of VoIP far outweigh those of legacy lines, as this type of phone system doesn't require physical lines to function and provides more flexibility.



Other VoIP phone system benefits include:

### **Saving money**

the lack of hardware and setup fees for most hosted or cloud VoIP phone systems means they are a cost-effective solution with low up-front and predictable ongoing costs.

### **Competitive**

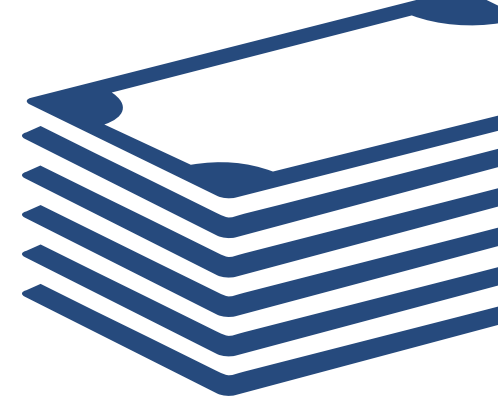
VoIP phone systems give businesses more functionality than a traditional on-premise solution, without the large up-front investment.

### **Internal flexibility**

remote working is an ideal way to expand your business, by making it possible to employ people from all over the world. With a wider talent pool to choose from, you can keep your remote employees connected to HQ with a VoIP phone system.

### **Reliability**

with multi-level backup systems and modern infrastructures, VoIP phone systems can provide a robust, reliable service that keeps your business connected.

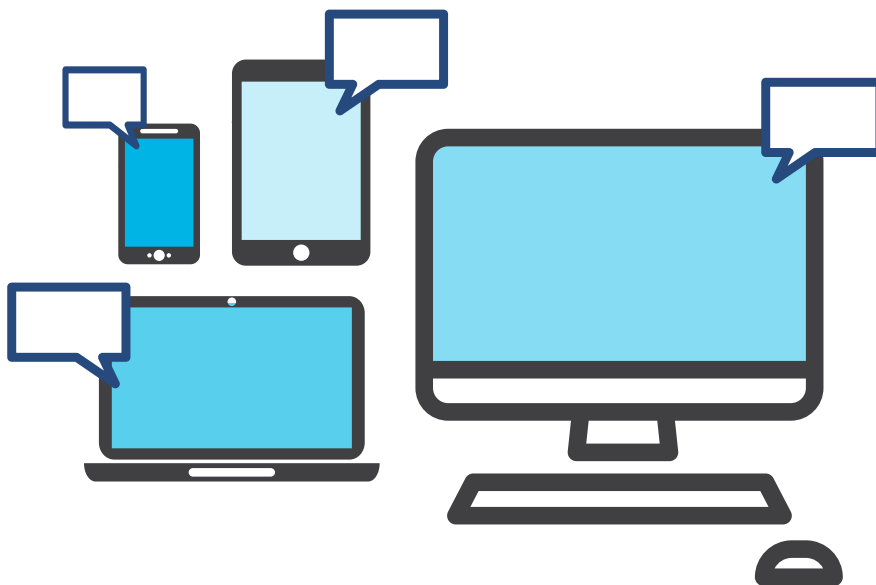


**The biggest benefit?** Happier customers. If your business' customer base receives support when they need it, you'll bolster customer loyalty and breed brand trust.

Take our **VoIPOffice™ solution** as an example. Not only can you reap all the benefits above, but VoIPOffice™ can also help you manage calls better with recording capabilities, user management and conference call options. Your employees can hold conferences from different locations, helping to improve efficiency and drive productivity.

You may decide you want to explore other options with regards to phone system connectivity. At Telappliant, we offer a Unified Communications service, VoIPOffice™ Communicator that enables you to make voice and video calls on a range of devices:

- Computer
- Laptop
- Phone
- Tablet



The idea is to make you feel connected in every eventuality. You can also instant message other employees in your organisation (say if you have a team of remote workers) and manage voicemails more effectively. VoIPOffice™ Communicator is known as a multi-platform application, giving you different connectivity options to suit your business' ever-growing needs.

But remember – VoIP solutions are an internet application, meaning they are vulnerable to malicious worms, viruses and malware. Make sure your authentication requirements for user access are strong, and that your entire server is protected with anti-virus and anti-malware measures.




**SIP trunks** are another element to phone system connectivity that are worth considering.

SIP trunking enables your business to increase the number of concurrent calls you make on one single internet connection.

Say goodbye to phone lines and hello to virtual, cloud-based lines that are infinitely scalable:

- Low-cost calls and free SIP-to-SIP calls
- You can add or remove lines depending on your business needs
- If a network drops out? No fear – SIP trunks are built with business continuity in mind, automatically re-routing you if a problem occurs.



The easier it is for employees to communicate internally, the easier it is for them to provide a high standard of service to your customers.

# CLOUD-BASED CONNECTIVITY

As your business grows, so does the need to create and store more and more data. But this data will also need to be hosted in a secure place, with back-up capabilities should your system suffer a glitch.

The answer? Cloud-based connectivity. Moving to the cloud means your business' data is readily available, enabling business continuity and mitigating the risk of downtime and income loss. But then, there's public cloud vs private cloud to consider. And, it all depends on the level of control your business wants...



## Public Cloud

- Your business is not responsible for the management of public cloud services
- Reduces lead time in testing and implementing new products within your business
- Your business' data is stored in the provider's data centre

## Private Cloud

- Sits within your provider's dedicated cloud infrastructure, but can be dedicated or shared to you
- Drawbacks for SMEs include management, maintenance and updating. Does your business have the time resource to cover this?
- Increased levels of security with data moving quickly, unlike slower public connections

Is the idea of businesses not being responsible for the management of their cloud service a potential negative? Or does the ease of the provider conducting maintenance outweigh this? It all depends on what you think is best for your business.

But that's also not to say public cloud security should be an issue. At Telappliant we provide a public cloud interconnect service, which secures your business' connection to the public cloud. It's the point between your office connection and the public cloud that is the least secure in the entire cloud infrastructure, so having this public cloud interconnect in place will give you peace of mind. Like any internet application, cloud-based services can also be vulnerable to malicious ransomware, which is a more devastating form of malware. Ransomware can easily spread throughout cloud services via sharing and synchronisation functionalities, which is why it's important to consider ways in which you can secure your cloud.

If you haven't already made the move to cloud, it's something to consider as a connectivity driver. The benefits your business could reap from using cloud-based services can include:

### **Scalability**

the more your business grows, the more demand you'll feel for internal server space and storage. With cloud-based services, you'll be able to upgrade your server's limit to keep business flowing.

### **Flexibility**

being in the cloud gives your employees the flexibility to work remotely. It also means you don't have to limit your recruiting radius to a local distance – you can employ people with the right skill set from any location in the world.

### **Fewer costs**

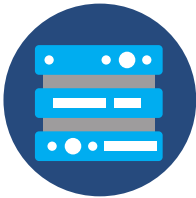
creating and maintaining a data centre can be costly, as you'll need to hire technicians and purchase the hardware you need. With the cloud, you only need to factor in costs for the services you require.

**But why else are cloud services a recommendable option for SMEs?**

# SD-WAN

SD-WAN (Software-Defined Wide Area Network) solutions utilise cloud services to enable businesses to connect to their data centres, or data hubs, via a connection that runs over standard internet connections. They encourage businesses to spread their networks over wider radiuses, connecting other data centres and offices to the core HQ effectively.

**The answer?** Cloud-based connectivity. Moving to the cloud means your business' data is readily available, enabling business continuity and mitigating the risk of downtime and income loss. But then, there's public cloud vs private cloud to consider. And, it all depends on the level of control your business wants...



**Not only can the cloud facilitate remote working for employees, but it also enables business data hubs to connect across locations and strengthen connectivity between branches over a bigger distance.**

Generally, you're having to buy all the connections from one vendor and have them linked together if you're building your own WAN. When you work with a partner it's a bit easier, but still usually requires a dedicated tail.

Traditional WANs, which include public and leased lines and an MPLS connectivity method, can sometimes encounter network issues such as packet delays and congestion – even though businesses can assign preferences based on SLA guarantees and usually manage the delivery of traffic effectively. What SD-WAN technology does, is remove the need for costly MPLS circuits and instead uses lower cost, high speed connectivity methods.

## SD-WAN products can be:

- Virtual systems
- Physical appliances

These are placed on cloud platforms, or sometimes within offices so businesses can benefit from a better network overlay that bolsters connectivity.

## Summary

For SMEs who are investing in their digital futures, it's important to get a detailed understanding of the options available. Don't forget that your internet connection is your access to the outside world and can come under threat by cyber criminals. Be wary of ransomware, phishing and malware. Securing your business' internet connection is as important as getting one that's the right size for your business.

Streamlining your connectivity will benefit both your employees and your customer base. Not only will you be able to offer the flexibility of remote working and choose recruits from a wider talent pool, but you can also expand your locations and conduct more business away from HQ.

If you'd like to discuss your connectivity options in more detail, our team of experts are on-hand to answer your questions and give you advice on what can work best for your business. Get in touch to find out more.

Contact us