

# WI-FI 101:

THE MUST- KNOW GUIDE  
TO CONNECTIVITY IN  
FLEXIBLE OFFICES



essens<sup>Y</sup>s  
we power ambition



2-5

### THE NITTY GRITTY: HOW WI-FI WORKS

An in-depth look at the technical factors required to offer a secure and high performing Wi-Fi network.

6

### HOW TO ENSURE AN EXCELLENT SERVICE EXPERIENCE

Reliable connectivity is mission-critical for your tenants to conduct their business and stay productive.

7-8

### WHY SECURITY MUST BE A TOP PRIORITY

Cutting corners puts your brand reputation at risk. Protect your business and your tenants from digital and cybersecurity threats.

9-11

### GAINING CONTROL OVER COMPLEX INFRASTRUCTURE

A service infrastructure layer that underpins the customer journey gives you more control to differentiate the tenant experience.

12-13

### VISIBILITY AND UNLOCKING DATA INSIGHTS

Data and analytics offer insight into business performance. Improve decision making, spot weak areas and identify new opportunities.

14

### SUMMARY



# Executive Summary

essensys

Flexible office is in high demand among occupiers. Competition to offer a premium brand and services is heating up. With as-a-service models becoming the primary consumption pattern across consumer and business markets, space providers are racing to respond.

But engineering these solutions into an existing proposition isn't easy. And more times than not, legacy systems and platforms aren't able to cope with the speed and flexibility required to effectively deliver flexible options to occupiers.

Deploying an effective technology operating model has become a critical requirement across office portfolios. Removing friction, enabling agility and flexibility, and futureproofing your business model depends on having the right tools and processes in place across your operation.

In this guide, we'll look at why connectivity and Wi-Fi are vital in a flexible office environment, and how to ensure your service proposition meets the standards of the varying occupier requirements across your portfolio.

# ⋮ The Nitty Gritty: How Wi-Fi Works

Reliable Wi-Fi is mission-critical for your tenants to conduct their business. For mobile and transient workers, a robust Wi-Fi connection is a must. In fact, Deskmag notes that poor internet connectivity was the most common reason that members left their workspace.

Wi-Fi has become a necessary commodity in our society. But a good Wi-Fi connection doesn't just appear magically. To deliver the most optimal service, you should first understand the many technical factors required to offer a secure and quality Wi-Fi network before implementing a solution.

## Let's look at the nitty-gritty.

For starters, Wi-Fi stands for Wireless Fidelity. Wi-Fi uses radio waves to supply mobile devices with a connection to a network. That network supports the two-way transmission of information – uploading to and downloading from the internet.

Access points and switches translate and decode the data, and it is then sent to the internet via a wired ethernet connection. The wireless signal is transmitted via a router or an access point, which broadcasts the channels that devices can connect to.

## Access Points

These devices are a necessity for a wireless network. It is a hardware unit that enables a wireless device to connect to a wired network by transmitting signals across Wi-Fi channels. Access points must be



correctly spaced out and installed throughout the location to support the coverage area across the workspace.

Site surveys are commonly conducted before configuring the network to map out where access points should be placed and ensure that members will pick up a reliable signal as they move throughout the office.

The number of people and devices connecting to your network will vary throughout the day. The more, the merrier as long as your infrastructure can support the multiple devices per member with no impact on the connection speed or quality.



# ⋮ The Nitty Gritty: How Wi-Fi Works

## Collision Domains

Speaking of quality, watch out for collision domains. This is when data packets in transit to and from devices collide in a section of the network, impacting quality and causing lower data transfer rates. So then, only one device can “speak” at a time, demanding enforced politeness when it comes to the transmission of data. When a collision between transmissions occurs, the device waits a random time and re-transmits the data later.



To draw a parallel, any signal on the same frequency as a Wi-Fi signal degrades it in the same way that a background noise can interfere in a human conversation. The equivalent of speaking louder or transmitting more power won't work. Inefficient, slow or dropped connections are a byproduct of congestion and interference caused by collision domains on wireless channels.

Without getting too technical, interference falls primarily into three instances:

- 1 CO-CHANNEL**  
Occurs when multiple devices overlap on the same channel.
- 2 ADJACENT CHANNEL**  
The overlapping of multiple devices and access point channels.
- 3 NON-WI-FI DEVICE**  
Caused by electronic products such as Bluetooth devices, radios, garage door openers or even an old microwave oven.

# ⋮ The Nitty Gritty: How Wi-Fi Works

## Avoid Common Pitfalls

Optimize signal strength and bolster high-performance Wi-Fi that doesn't fail with these expert tips.

## Inadequate Planning

Poor building construction and distant Access Point locations reduce the strength of the wireless signal. Access points should be optimally placed to cover target areas at the lowest possible power settings and using channels that don't interfere with each other. Obstruction by walls, pillars, or glass windows can disrupt connections and spots of little to no coverage. Before fitting out your location, consult with a tech expert, and **conduct a site survey** →

## Too Many Wireless Connections

You may allow your tenants and members to install their own access points or configure their own Wi-Fi networks using SOHO devices (for Small Office/ Home Office). Beware! These devices are often unreliable and less secure than enterprise solutions and can lead to chaos in the channel spectrum. When multiple Wi-Fi networks exist in a relatively confined space, they fight for access to a free channel, leading to interference, slow speeds, and connections, or worst, completely unusable Wi-Fi networks. To prevent this, offer your tenants enhanced Wi-Fi services and infrastructure that are fit for purpose.

## Prevent Bandwidth Hogs

A segmented wireless network prevents a single user from hogging all the available internet speed and causing significant slowdowns for others. Increased content consumption and use of cloud-based apps such as Zoom, Dropbox, or Skype can put a considerable strain on transfer times. Allocating dedicated VLANs to tenants, especially those in private offices and spec suites, puts everyone on a level playing field instead of having to fight for bandwidth. Purpose-built tech operating platforms enable operators to track consumption on the network and increase or decrease bandwidth based on occupiers' requirements.



# ⋮ The Nitty Gritty: How Wi-Fi Works



## Not Wiring Up

Fit out your space with cabled internet to alleviate the strain on Wi-Fi and ensure better connection speeds. Signal strength is critical, but the number of devices and access points will also impact the user experience. The more devices on the network – whether operator, tenant, or visitor devices – the more complex managing that network will be. The best solution? Wire-up any device that is static and can use a cable. The fewer devices connected to the network, the less competition for data in transit across channels and the better the Wi-Fi performance, especially for mobile or guest users that rely on Wi-Fi. Fit out the space with traditional Cat 5, 6, or 7 cabling to deliver an ethernet connection at each workstation. Wired cabling is more affordable at fit-out rather than retro-actively installing it.

# How to Ensure an Excellent Service Experience

Today's occupier has high expectations when it comes to where they work. And with competition on the rise in the flexible office sector, getting the tech right from day one is critical.

As we learned above, a Wi-Fi network can be quite complex to configure and, if not done correctly, can cause a poor member experience. Being digitally enabled to deliver connectivity services is a strategic investment.

A services infrastructure platform can help you tool up to make good on your services proposition. Consider these advantages of the right technology:

1

## REMOVE FRICTION

Give your tenants what they need quickly and easily. Streamlined and automated processes simplify complex operations and unlock better service levels for your tenants and enable staff to do their job quicker and easier.

2

## MEET REQUIREMENTS

From startups to enterprise tenants, you must be prepared to understand and provide the tech and security requirements of the expanding addressable market. The broader the spectrum of flexible services and terms you can offer, the longer your tenants will stay within your portfolio.

3

## SWITCH SERVICES ON INSTANTLY

With the growing need for agility in the workspace, the power of now is an essential requirement for flexibility. Tenants expect the immediacy of services and changes. Control the provisioning process and reduce lead times for tenant on-boarding and billing.

4

## REMOVE RISK

Your current proposition may not be enabled to deliver flexible services. Outdated or legacy systems, tools, and processes seldom support the constantly changing elements of a flexible office model. Empower your operation with fit for purpose, flexible technology.



# Why Security is a Top Priority

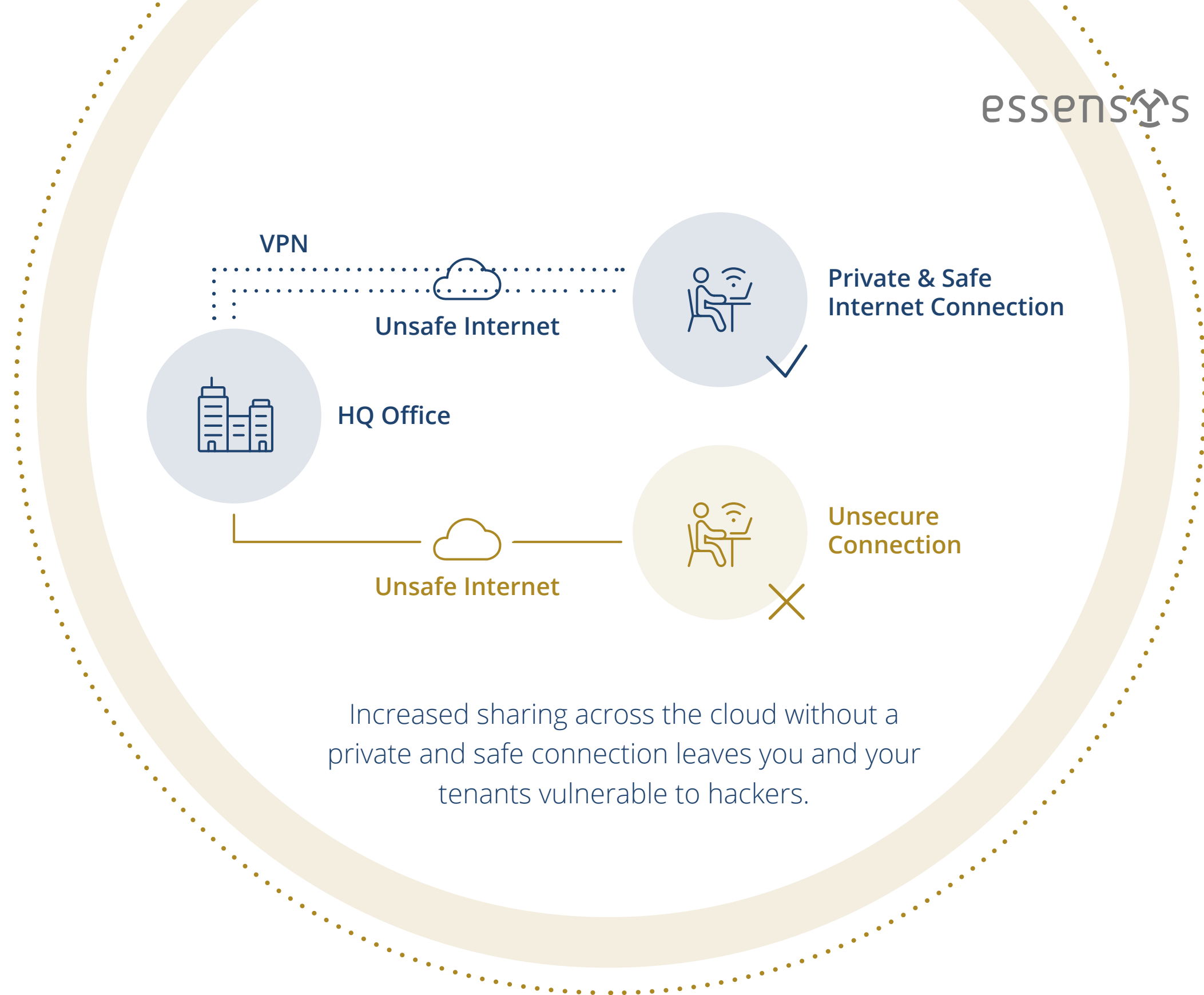
Whether you run a single flexible workspace or a multi-site operation, tech security is a serious consideration.

## Brand Reputation

Gone are the days of a simple wireless setup with an open network and a shared password. This DIY approach leaves your network vulnerable to hacks and unauthorized access to personal, financial, or commercial information, putting your brand reputation and customer retention at risk.

With a dynamic occupier base and flexible working options, users within your space are rarely the same on any given day. While some may be trusted, it is wise to safeguard your network from visitors, guests, or passersby. With the right know-how and device, any coworker could hack your network and steal information.

A secure Wi-Fi network provides user visibility and trackability. Gaining insight into who is connected to your network. Keeping a footprint of activity helps to prevent unwanted security risks.



Get the complete Guide to Tech Security  
for Flexible Workspaces now. →

# Why Security is a Top Priority

## Technical Protocol

The best alternative to standard Wi-Fi is implementing enterprise-grade security that encrypts and authorizes access based on specific usernames and passwords rather than issuing a shared password common for WPA networks.

Authorized users will have to wait for an email with login credentials before they can log on to the Wi-Fi. If an employee or a tenant leaves, staff can easily disable the user instead of having to change the Wi-Fi password for all users on the network.

To protect user data and prevent external attacks, you should be placing patches, running software updates, and virus and malware

defenses for all devices connected to your network.

## Enterprise requirements

Enterprise-grade security and compliance protocols can protect critical data, services, and intellectual property, adhering to the latest regulatory standards. A lack of proven network security and compliance specifications might be a deal-breaker for many corporate occupiers.

## Dedicated Member Access

Enterprise security and double authentication combined with dedicated VLANs for each tenant are the best of both worlds. This solution uses a single SSID for members and tenants to securely access the network with unique, device-specific login credentials.

## Guest Hospitality

For guests, visitors, and day pass consumers, it's important to make them feel welcomed. But you must also protect the security and performance of your network. Mitigate potential threats to both by creating a separate SSID for the Guest Wi-Fi network and putting short-term users onto a dedicated VLAN with a specific guest bandwidth profile.

Visitors will have to sign into a portal and accept your terms and conditions of use before accessing services. After a period of time they will be removed from the guest network and will need to reconnect. You'll gain greater visibility into who is connected to the guest SSID. Plus, the peace of mind that malignant guest users aren't free to roam or threaten your members' privacy and the integrity of your network.

An advantage of authenticating guest users is collecting their details for future marketing use and analysis, given they opt-in. It's worth creating a unique Wi-Fi network for day visitors, one-off meetings, and audio-visual devices to support and secure streaming or presentation inputs and prevent bandwidth hogging.

# Gaining Control Over Complex Infrastructure

As the office sector continues to shift from product to service, it's crucial to underline your operation with the right infrastructure. A system that gives you control over everything from prospecting to renewals will make all the difference in providing a positive and slick experience for your staff and occupiers.

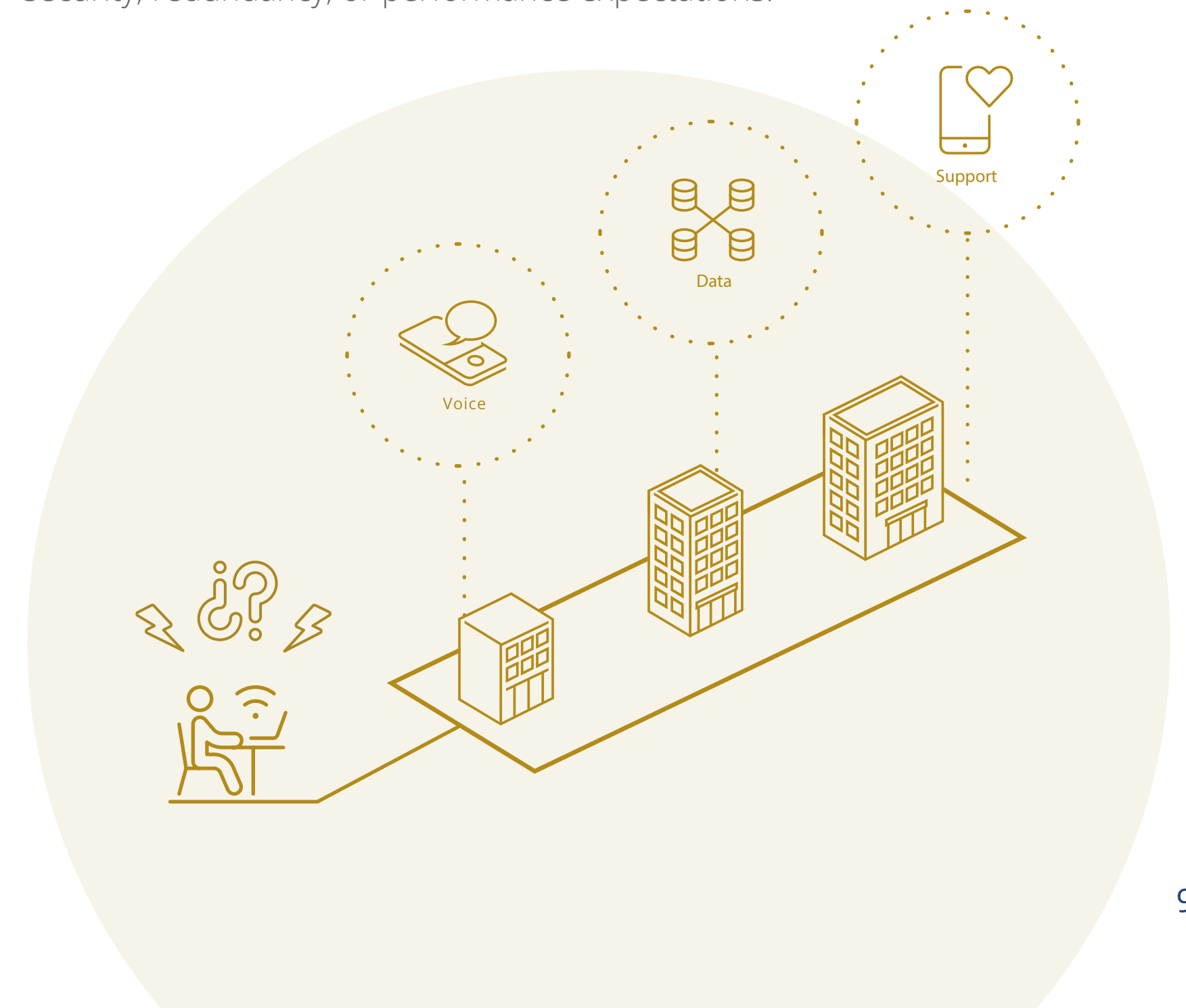
Centralizing all the moving pieces of a complex operation gives you more control over your business and enables you to reduce costs while focusing on growth and profitability. Because technology is such an integral aspect of the flex proposition, operators must choose wisely how they source connectivity to power their locations.

**It's not easy, but it doesn't have to be complicated either.**

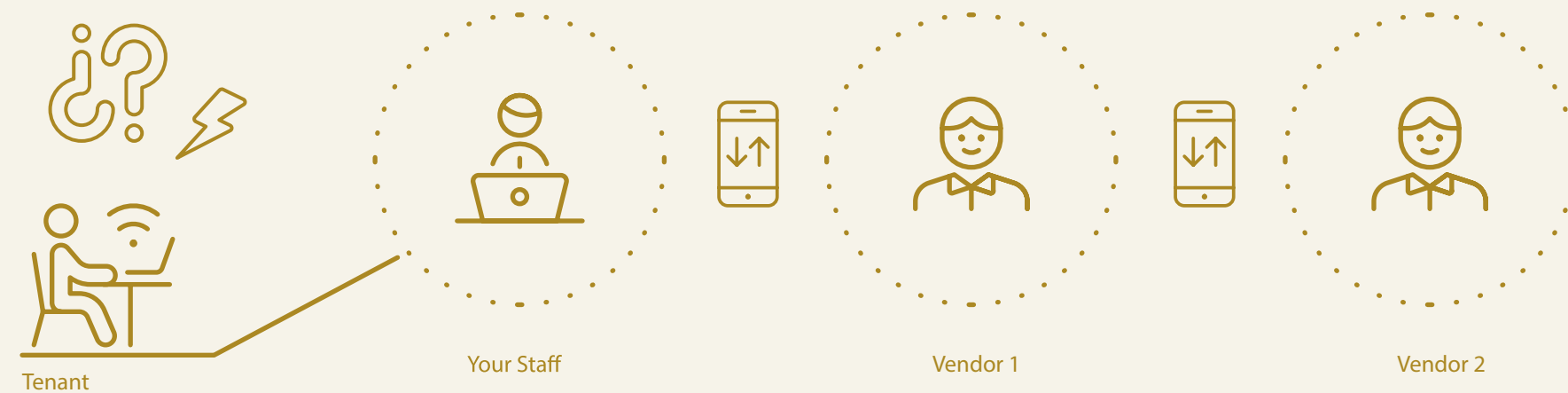
## DIY

Cobbling together multiple disparate systems, each with its own contract and SLA limits the control and flexibility to offer tailored services to a wide range of occupiers.

Replicating a DIY model across sites is complex and burdensome to manage on your own while juggling other flex-space business components. It constrains your staff and their ability to onboard customers quickly and easily, deliver services, and offer support. Once your operation begins to grow beyond a couple of locations, a DIY system cannot effectively support scalability or ensure security, redundancy, or performance expectations.



# ⋮ Gaining Control Over Complex Infrastructure



## Outsource to multiple vendors

To provision and troubleshoot via a ticketing system leaves stakeholders at the mercy of an expensive consultant, long wait times and limited control over the IT services and member experience.

Like DIY, an outsourced approach to connectivity services means relying on multiple vendors, limiting the ability to tailor services to customers, streamline service delivery and support, and scale the operation.

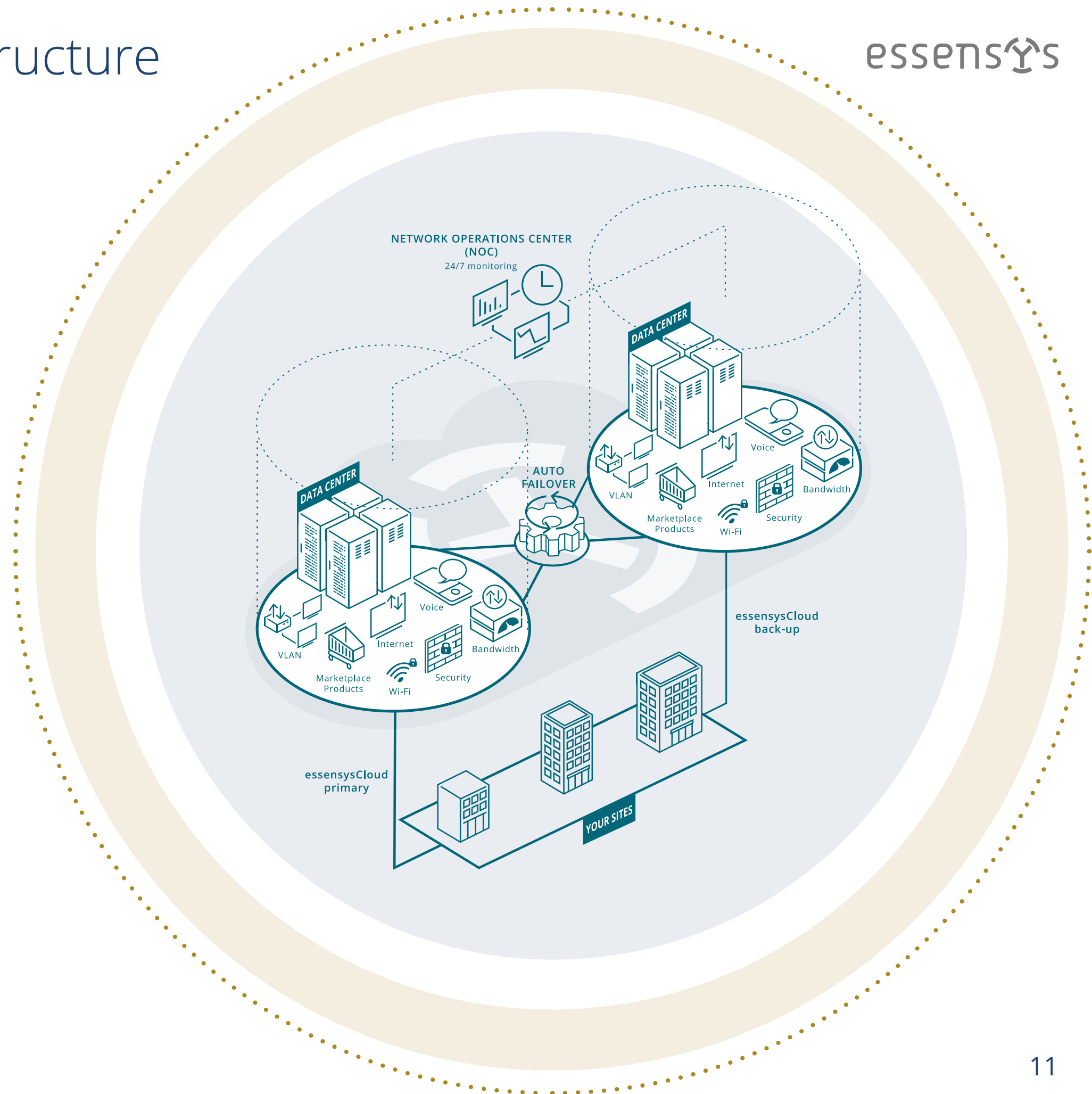
# Gaining Control Over Complex Infrastructure

## Purpose-built, enterprise-grade network solution

Working with a third-party or industry expert to manage a connection from an ISP gives operators control over access points, users, bandwidth, and analytics.

Centralized network management produces better insight into who is roaming the network. It captures service usage analytics and allows operators to differentiate their proposition from the competition. Technology thoughtfully designed for flexible office environments ensures an easy-to-scale services delivery platform. It expands the capabilities of your ambition to scale efficiently and enriches your proposition by offering a marketplace of IT products and services.

Software overlaid on a secure, private network and cloud infrastructure offers proper control and flexibility over shared, dedicated, and custom service lines such as bandwidth and voice services. More importantly, it puts you in the driver's seat with real-time control over services and the tenant experience.



# Visibility & Unlocking Insights

Using data and analytics to gain visibility over performance across your business can improve decision making, spot weak areas, and identify new opportunities. But are you able to see how tenants use and interact with your services?

## Unlocking Insights

Having the ability to capture and access data from your business applications is essential. Data from Wi-Fi and internet services can show you how much bandwidth your tenants consume and how they move within and across your space portfolio. These insights can help you to better understand trends and make data-driven business decisions. But it gets complicated when you're using multiple, disparate systems and reporting across various locations.

## Bandwidth Consumption

Internet and bandwidth are not a one-size-fits-all service. The bandwidth needs of an enterprise tenant are not the same as a startup or small business. Segregating and allocating bandwidth to individual tenants allows you to tailor your proposition to the varying needs of your customer base. This helps to ensure that end-users are always connected and have the services they need to stay productive.

Software enabled infrastructure empowers you to deliver complex services quickly and easily and gives you visibility into how these services are consumed. Increasing or decreasing bandwidth with a few clicks means less stress on staff and a better, more seamless experience for occupiers.



# Visibility & Unlocking Insights

essensys

## Complex Reporting

The spectrum of flexible office products means more data points and customer types to track, for example, hot desk usage, tenant by tenant bandwidth, or Wi-Fi consumption across multiple workspaces and locations. Granular monitoring and reporting of data usage across your portfolio can help identify cross-sell and upsell opportunities and offer a tailored proposition to a broader range of occupiers.

Delivering and managing connectivity services from a single technology operating platform grants access to a unified set of big data and business intelligence. The possibilities are endless when you can customize propositions to tenants' needs and pivot your business model based on supply

and demand drivers. Visualizing service consumption trends and patterns make it possible to tailor Wi-Fi and connectivity, provide enhanced services, and reduce customer churn.

## Mitigating Risks

As we saw above, security is essential. A critical component for reliable and secure infrastructure is having visibility over the devices that are connected to the network. A tech operating model that gives you visibility over shadow IT and BYOD (bring your own device) policies helps to mitigate security and compliance risks.

# Summary

Connectivity is mission-critical. Empowering your customers with seamless, reliable, and secure services that keep them productive throughout the day is essential in a competitive market. A service layer supported by cloud-based infrastructure and simple, easy to use software has the power to unlock premium value to your tenants, so they grow within your portfolio.



essensys



## MISSION-CRITICAL SOFTWARE FOR THE FLEXIBLE WORKSPACE INDUSTRY.

Born from our unique first-hand industry experience, we empower ambitious operators to accelerate their growth.

Our secure platform combines technology, infrastructure and operational processes into a simple, efficient and easy to manage service experience. At the touch of a button you have complete control of your business, allowing you to deliver amazing experiences while gaining valuable and actionable insights.

Visit [www.essensys.tech](http://www.essensys.tech) for your product tour.

essensys



All rights reserved. © essensys 2020  
Aldgate Tower | 2 Leaman Street | London | E1 8FA  
450 7th Avenue | New York | New York | 10123  
2450 Colorado Ave | Santa Monica | California | 90404  
[marketing@essensys.tech](mailto:marketing@essensys.tech)  
[www.essensys.tech](http://www.essensys.tech)