ONNEC VIEWPOINT

ALWAYS-ON RETAIL

Why Secure, Intelligent Networks are Powering the Future of Irish Retail

THE FOUNDATION OF CONNECTED RETAIL: TRUSTWORTHY NETWORKS

Connected retail doesn't just depend on digital innovation. It depends on networks that can be trusted to perform, adapt and remain secure as stores become more connected.

Walk into a modern retail store today and the experience is no longer purely physical. Customers browse via apps while in-store, complete purchases on mobile devices, and use self-service kiosks to return items. Behind the scenes, automation and cloud-based systems are quietly reshaping how stores operate.

Across Ireland, this shift towards the connected store is accelerating, but not in a uniform way. While some locations prioritise experience-led innovation, others – including many smaller or more distributed stores – are focused on efficiency, convenience and return on investment.

That balance is becoming harder to strike. Strong demand for digital commerce is clear, but research shows many businesses – especially SMEs – are still grappling with the cost of investment and limited in-house expertise needed to scale digital capabilities.

74%

of Irish SMEs have reached a basic level of digital intensity

Despite this, retailers all have the same challenge: how to support increasingly connected, data-driven environments while closing the gap between online, in-store, stock and warehousing systems.

This viewpoint explores the five key factors retailers must consider when designing and upgrading their network infrastructure.

RISING COMPLEXITY: MANAGING THE MODERN IN-STORE NETWORK

As technology becomes more deeply embedded in the retail store, the network is now supporting far more than traditional IT systems.

39%

The ESRI SME Investment Report (2025) found that 39% of Irish SME's were investing in digital transition to better align these functions.

Self-service checkout, mobile POS, digital signage, monitoring systems, and automated inventory tools all rely on in-store connectivity, yet many operate beyond the reach of standard IT controls. This growing mix of managed and unmanaged devices increases complexity and makes it harder for retailers to maintain a clear view of what is connected. In this environment, having visibility and control across the network is just as critical day-to-day operations as speed and reliability.

The reason is simple. As more technologies are layered into stores, the demand on in-store networks rises sharply. The network can no longer be treated as a background utility and must actively support performance, reliability and security across all connected systems.

To do this effectively, there are five key factors retailers must consider when designing and upgrading their network infrastructure:

1. **From store network to digital infrastructure platform**
2. **Wi-Fi as a critical layer of customer experience**
3. **Always-on checkout and POS modernisation**
4. **The rise of IoT-enabled stores**
5. **Simplified, centralised network management at scale**

Factor 1

FROM STORE NETWORK TO DIGITAL INFRASTRUCTURE PLATFORM

Historically, retail networks have been designed to support a limited number of fixed endpoints: tills, back-office systems and basic connectivity. But today, it underpins an entire ecosystem of technologies that directly influence revenue, efficiency and customer experience.

Example:

For instance, SuperValu's pilot of Simbe's "Tally" shelf-scanning robot improves inventory accuracy while reducing manual workload, while retailers like Zara are investing in increasingly tech-enabled store environments.

A growing number of in-store technologies operate beyond the reach of conventional endpoint protection. Retail equipment ranging from robotic inventory solutions and kiosks to cameras and facilities systems frequently lacks agent support and does not behave like traditional IT devices. When these assets are not clearly visible or understood at the network layer, they can create visibility gaps that affect both reliability and security. This means modern retail networks need to move beyond basic connectivity and take an active role in identifying, segmenting and overseeing everything connected within the store.

At the heart of this shift is the in-store network itself and its role has fundamentally changed. No longer a supporting utility, it is now core to business operations and must be resilient, scalable, and able to support continuous change. This shift starts with the network architecture itself.

Modern retail networks must be resilient, scalable and designed to support constant change, integrating security, segmentation and centralised visibility to ensure new technologies can be added and managed without disrupting operations.

Factor 2

WI-FI AS A CRITICAL LAYER OF CUSTOMER EXPERIENCE

Wi-Fi now plays a central role in how customers interact with retail environments, enabling mobile payments, loyalty apps and seamless omnichannel journeys.

It also powers digital signage and in-store displays – the screens pushing offers, seasonal campaigns or personalised messaging as customers move through the store. When its works, it feels seamless. When it doesn't, it's obvious. And all of it relies on fast, reliable connectivity behind the scenes.

In high-footfall outlets, retailers are investing in dense, high-performance wireless networks to support large volumes of connected users. In Ireland, where stores are smaller and more convenience-led, the focus is on enabling fast, reliable interactions – from click-and-collect to app-based promotions.

Without a well-designed wireless network architecture, including appropriate access-point density, intelligent traffic management, and a resilient backhaul, Wi-Fi cannot scale to meet demand. The result is familiar:

Slow payment processing at peak times

App failures mid-transaction

Customers abandoning digital journeys altogether

All of which directly impact revenue and experience

Factor 3

ALWAYS-ON CHECKOUT AND POS MODERNISATION

Nowhere is this reliance on infrastructure more visible than at checkout.

Checkout is the most revenue-critical point in the retail journey, and it is becoming increasingly distributed. Cloud-based POS systems, mobile checkout and self-service technologies are transforming how and where transactions take place.

Example:

Autonomous retail concepts – such as The Galmont Hotel & Spa in Galway – offer a glimpse into cashier-less environments powered by computer vision and automated payments. While similar models, including Amazon Fresh in London, have faced setbacks, they still point towards a more frictionless future for checkout.

Across Ireland, self-checkout and mobile POS are the standard in many shops. These systems improve speed and flexibility but also increase dependence on network performance. Even brief connectivity issues from underlying infrastructure can lead to delayed transactions, lost sales and poor customer experiences.

This makes low-latency, highly available networks with built-in resilience essential to maintaining performance at the most critical moment in the customer journey.

Factor 4

THE RISE OF IOT-ENABLED STORES

Retail environments are becoming increasingly connected, with a growing number of devices generating data and automating operations. This includes RFID systems, digital signage, security cameras, environmental sensors and robotics.

Example:

In Ireland, this trend is closely tied to efficiency and sustainability. Lidl's net-zero supermarket in Maynooth, for example, uses connected sensors to monitor and optimise energy consumption. These environments depend on reliable infrastructure to collect and act on data in real-time.

At the same time, global innovation, from AI-driven personalisation to smart carts, is raising expectations for what connected stores can deliver. Even where these technologies are not yet widespread, networks must be designed to support future adoption. Each of these adds not just capability, but complexity – placing greater strain on the underlying infrastructure.

As device density increases, so too does the need for networks that can intelligently manage traffic, prioritise critical systems and maintain visibility across a growing and diverse set of connected assets.

Technologies such as IoT and operational systems increasingly operate autonomously within retail stores, delivering clear operational benefits but also creating new types of exposure. When these systems experience faults, misconfiguration or interference, the impact can be felt immediately across trading, safety, and compliance. Legacy security tools were not built to address this blend of operational and digital risk.

As a result, retailers need networks that provide ongoing visibility and enable connected assets to be identified, categorised, and continuously observed rather than on a periodic basis.

Factor 5

SIMPLIFIED, CENTRALISED NETWORK MANAGEMENT AT SCALE

As store environments become more complex, managing network infrastructure across distributed estates is a growing challenge.

This is particularly relevant in Ireland, where retail is geographically dispersed across multiple towns and cities. Unlike highly concentrated retail hubs in the UK, investment is less about flagship impact and more about consistency and operational efficiency across locations.

Retailers are responding by adopting centralised, software-defined approaches. SD-WAN and cloud-managed networking enable remote monitoring, faster troubleshooting and more consistent performance, reducing reliance on on-site expertise.

Standardisation is equally important. Consistent network design and policy across store estates allows retailers to roll out new technologies more quickly, simplify ongoing management and ensure predictable performance at scale.

WHY EXPERT PARTNERS MATTER

Network Infrastructure as the enabler of retail innovation.

While the pace and visibility of transformation may differ between organisations, the direction of travel is clear. Retail is becoming more connected, more data-driven and more dependent on digital infrastructure to operate effectively and deliver competitive customer experiences.

But building that foundation is not just a technology decision – it is an execution challenge. Networks must be designed, deployed and managed in a way that reflects the realities of modern retail: distributed locations, evolving technologies and constant pressure on performance.

This is where experienced partners, like Onnec, play a critical role in helping retailers design and deliver the network infrastructure required to support connected store environments and ensure networks are not only fit for today but are secure and ready to scale with future demands. Our network solutions team deliver a range of innovative and integrated networking, security and support services to customers across Ireland. These services are provided by a local team of highly trained and experienced engineers, all full time employees based in Ireland.

Ultimately, the retailers best positioned for success will be those that recognise every connected experience depends on the strength of the network itself and how it is designed, secured and actively managed.

As stores become more digitally dependent, retailers increasingly rely on partners who can take responsibility for network performance, visibility and security as a continuous service. Onnec's role is to ensure retail networks are not only connected but also actively managed and ready to support growth without compromising resilience or trust.

ABOUT ONNEC

Onnec is a leading independent IT infrastructure solutions and services partner, delivering for major organisations worldwide, every day. We specialise in structured cabling, managed services and advanced network solutions.

Our highly skilled designers, project managers and technicians, supported by world-class vendor partnerships, design, deliver and manage business-critical IT environments across the globe. Regardless of size or location, every project receives the same level of dedication, expertise and commitment to excellence that defines Onnec's work worldwide.

Onnec's expertise spans all environments and can support customers with:

- Structured cabling design and installation
- Wired/Wireless access, SD WAN/LAN
- Network hardware installations, changes and support
- Cloud Security to endpoint protection, supporting Zero Trust and delivering SASE
- Reactive or planned network support services

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