

Cost-Effective Urban

Wireless CCTV Network
Connects **Four Historic
Welsh Towns** for
Monmouthshire County
Council



CONNECTING YOUR WORLD

Introduction

Monmouthshire County Council required a cost-effective solution to modernize their urban surveillance infrastructure across the historic Welsh towns of Caldicot, Monmouth, Chepstow, and Abergavenny. Facing austerity budget constraints, the Council sought alternatives to expensive fixed-line leased fiber connections while maintaining comprehensive CCTV coverage. Wavesight's advanced Ethernet bridge technology enabled a complete fiber-to-wireless switchover, delivering significant operational cost savings while establishing a robust, scalable surveillance network that leverages existing digital fiber backhaul infrastructure.

The Challenge

Monmouthshire County Council faced several critical requirements in upgrading their municipal surveillance network:

- **Budget Constraints:** Austerity measures required substantial cost reductions while maintaining high-quality CCTV service levels across all four town centers.
- **Geographic Complexity:** Deploying surveillance across narrow streets in hilly terrain with dense buildings and tree coverage, requiring reliable connectivity without expensive infrastructure modifications.
- **Integration Requirements:** Connecting existing analogue cameras and new IP PTZ cameras through a unified wireless network that could seamlessly integrate with the Council's existing private digital fiber backbone.

The Solution

Working in partnership with AVA Security & Communications, Wavesight deployed a comprehensive wireless CCTV infrastructure featuring:

- 77 Licence-Exempt Ethernet Bridges: Implementation of Wavesight's advanced Ethernet bridge technology optimized for video transmission, ensuring minimal latency while supporting multiple wireless hops and daisy-chained links across challenging urban terrain.
- Innovative Infrastructure Utilization: Strategic deployment leveraging existing camera columns and streetlight infrastructure to achieve reliable line-of-sight connectivity without requiring additional tower construction.
- Private Network Integration: Seamless integration with the Council's existing private digital fiber connection between towns, enabling centralized recording and monitoring while maintaining complete network ownership and eliminating ongoing operational expenditure.

Results & Benefits

- Significant Cost Savings: Elimination of expensive fixed-line leased fiber costs while maintaining comprehensive surveillance coverage across 29 cameras monitoring four town centers.
- Enhanced Network Scalability: The flexible wireless infrastructure supports rapid camera additions at fractional costs compared to traditional leased line cables, enabling future network expansion.
- 24/7 Reliable Operations: Low-latency wireless transmission ensures continuous surveillance coverage with real-time monitoring capabilities and reliable network performance across challenging Welsh terrain.
- Complete Network Ownership: The Council achieved total control over their surveillance infrastructure, eliminating recurring lease fees while establishing a highly secure, private network capable of future growth.

Client Testimonial

"We decided to work with Wavesight for this project because we were confident that their experience and knowledge in urban-surveillance projects surpasses that of other Ethernet bridging vendors in the marketplace. We needed to partner with a company that could design a reliable wireless infrastructure solution which will give the client the ability to scale up their system if required in the future."

Phil Grunewald, Managing Director, AVA Security & Communications

Conclusion

Wavesight's Ethernet bridge technology delivered an innovative solution that transformed Monmouthshire County Council's approach to urban surveillance, demonstrating how advanced wireless networking can achieve substantial cost savings while enhancing operational capabilities. This deployment showcases Wavesight's expertise in designing reliable wireless infrastructure solutions that meet the evolving needs of local authorities across the UK.