

Case Study

Leading Public Research University Expands Campus Innovation with Highway 9 Private Mobile Networks

Client Overview:

Customer: Leading Public University

Industry: Higher Education

Location: United States

Project Type: Private and Hybrid Mobile Networks to support campus safety, research, and carrier extension

Background

A leading public research university required a robust wireless network to support diverse campus applications including security monitoring, agricultural research data collection, and large-scale public events. Existing Wi-Fi was unable to provide reliable coverage or capacity across expansive indoor and outdoor areas. The project aimed to deploy a hybrid private mobile network to ensure seamless, scalable connectivity that meets the real-time data and operational needs of these critical use cases.

Challenge

The University needed high-performance connectivity for multiple campus operations:

- **Campus Safety (Axis Cameras):** High-definition video surveillance required low-latency, reliable connectivity.
- **Connected Agriculture:** Experimental farms required IoT sensor, drone, and analytics connectivity over wide areas.
- **Carrier Extension (CX) for Events:** During athletics, commencement, and peak hours in dining halls, public carrier networks were congested.

The university wanted a scalable, centrally managed network to support mission-critical applications while enabling seamless coverage for all users.



Highway 9 Solution

The university deployed a Private Mobile Network (PMN) alongside Hybrid Mobile Network as a Service (HMNaaS) with neutral host capabilities.

- **PMN:** Dedicated private network for Axis cameras, IoT, and research zones.
- **HMNaaS:** Provides elastic carrier extension (CX) during events, enabling multi-carrier support for students, staff, and visitors over a single infrastructure.
- **Centralized Orchestration:** Simplifies traffic management, prioritizes mission-critical applications, and provides analytics across all campus areas.

Core Use Cases

- **Campus Safety & Security:** PMN delivers dedicated, low-latency wireless connectivity ensuring high-definition video feeds are reliable and always available for real-time monitoring and quick incident response.
- **Connected Agriculture:** The network supports extensive IoT sensor deployments, drones, and analytics platforms with secure, scalable connectivity across large outdoor research areas, enabling advanced data collection and precision agriculture.
- **Coverage for large events:** HMNaaS provides elastic, multi-carrier coverage on a single managed infrastructure, seamlessly supporting large events and fluctuating user demands without network congestion or coverage gaps.



Outcomes & Benefits

Challenge	Solution	Value Delivered
Unreliable Surveillance network	PMN	Reliable, real-time safety monitoring
Connectivity gaps on farms	PMN	Supports advanced agricultural research
Event network congestion	HMNaaS	Seamless carrier coverage during peak periods
Fragmented IT operations	Centralized orchestration	Reduced operational burden, proactive optimization

Hybrid mobile network delivered reliable, low-latency connectivity, enabling real-time campus safety with uninterrupted high-definition video feeds. It supported expansive IoT and drone-based agricultural research through scalable and secure wireless coverage. During peak campus events, elastic carrier extension ensured seamless multi-carrier access, eliminating network congestion and improving user experience. Centralized network management simplified IT operations, delivering enhanced visibility and faster issue resolution.

In Customers' Words

Highway 9's hybrid mobile network has fundamentally improved how we manage campus connectivity and safety. The ability to seamlessly support high-definition surveillance, large-scale outdoor research, and peak event wireless demands on a single platform has empowered our teams and optimized campus operations.

– Chief Technology Officer, Leading Public University

Looking Ahead

The university plans to:

- **Expand HMNaaS coverage** to additional academic and research facilities with adaptive, multi-carrier support for growing campus populations and technological needs.
- **Integrate enhanced IoT frameworks** and real-time analytics to extend support for precision agriculture and environmental monitoring initiatives.
- **Expand campus-wide security** using camera systems fully integrated with the private mobile network to bolster safety and compliance standards.
- **Explore further applications** of the hybrid mobile network in emerging technologies including AR/VR for education and next-generation public safety systems.

Get started today

Embark on your journey to unlock smart connectivity in higher education.

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Contact Us: info@highway9.com