

Wavesight Wireless Transmission Enhances RFID Vehicle Access & Security Systems for Western Coalfields Nagpur

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Introduction

Western Coalfields Limited (WCL) in Nagpur required a resilient wireless transmission solution to monitor their critical security infrastructure including RFID-based vehicle access systems, boom barriers, and security cameras across multiple mining locations in Ballarpur, Wani, and WCL Nagpur Headquarters. Wavesight delivered an industrial-grade wireless communication system that provided reliable, real-time connectivity critical for automation and security monitoring across these dispersed sites.

The Challenge

- Ensure uninterrupted wireless transmission for RFID vehicle access controls and boom barrier automation across multiple mining locations spanning Nagpur, Ballarpur, and Wani.
- Provide secure, low-latency monitoring for high-resolution security cameras as part of integrated surveillance systems essential for site safety.
- Deploy a solution capable of supporting remote, rugged, and operationally intensive coal mine environments with minimal maintenance.

The Wavesight Solution

- Technology: Industrial wireless transmission systems tailored for heavy industrial and mining environments, enabling seamless integration of RFID readers, boom barrier controls, and IP security cameras over wireless links.
- Deployment: Wireless links installed at key operational points across Ballarpur, Wani, and Nagpur HQ, ensuring seamless communication of vehicle access data and video feeds to centralized control centers.
- Performance: Reliable, secure wireless data transmission enabling two-factor vehicle authentication via RFID and ANPR (Automatic Number Plate Recognition), real-time video surveillance, and automated access control.
- Partner: Project awarded to Orbitsys Consultancy Pvt Limited, who managed local deployment and integration utilizing Wavesight's wireless systems.

Results & Benefits

- Enhanced security and operational efficiency with fully automated vehicle access control utilizing RFID and boom barriers.
- Continuous monitoring enabled through real-time wireless transmission of security camera feeds, offering improved situational awareness and rapid response capability.
- Scalable and robust wireless infrastructure supporting critical coal mine operations in challenging terrains and environments.
- Reduced operational risk, increased automation, and reliable data communication for improved asset and personnel safety.

Conclusion

Wavesight's wireless transmission solutions have empowered Western Coalfields Nagpur to modernize their security and access control operations with resilient, industrial-grade wireless connectivity. This deployment highlights Wavesight's expertise in delivering mission-critical wireless systems for mining and industrial sectors, ensuring secure, automated, and efficient site management.