

Wireless

CCTV Solutions at BPCL Kochi



CONNECTING YOUR WORLD

Introduction

Bharat Petroleum Corporation Limited (BPCL), a Fortune Global 500 Maharatna, operates one of India's largest and most advanced oil refineries at Kochi, Kerala. To enhance operational security and surveillance, BPCL partnered with Wavesight to deploy robust, high-capacity wireless connectivity—linking hundreds of CCTV cameras across complex refinery zones to aggregation points and control rooms for real-time monitoring and incident response.

The Challenge

- BPCL is India's second-largest publicly owned oil company.
- Operates three major refineries: Mumbai, Bina, and Kochi—its Kochi plant is the largest public sector refinery in India, with a nameplate capacity of 15.5 million metric tonnes per annum (MMTPA).
- BPCL ranks #630 on the 2025 Forbes Global 2000 and is a regular in the Fortune Global 500.
- BPCL Kochi specializes in advanced fuels and petrochemicals with strict adherence to global HSE and security standards.

The Solution

- The Kochi Refinery spans a vast, high-security industrial campus with multiple process areas, hazardous zones, and perimeters requiring round-the-clock CCTV coverage.
- Wired connectivity for hundreds of high-definition cameras was impractical across all operational zones due to distance, existing infrastructure constraints, and harsh plant environments.
- BPCL needed a reliable, low-latency wireless network to ensure uninterrupted video feeds from remote areas to main control rooms, augmenting perimeter protection and incident detection capabilities.

Solution Overview

- Wavesight, with its local partners, engineered an industrial-grade point-to-point wireless network for BPCL Kochi's CCTV infrastructure.
- Key features included:
 - High-bandwidth, interference-resistant radios for HD video transmission over long ranges.
 - Robust, fireproof outdoor enclosures rated for hazardous refinery conditions.
 - Seamless integration with BPCL's existing CCTV systems, storage, and VMS platforms.
 - Flexibility for network scalability as the number of cameras and surveillance areas expand.
- The new solution enabled secure, low-maintenance wireless links from each CCTV camera cluster to centralized aggregation switches and the main security control room.

Results & Benefits

- BPCL achieved full-facility wireless surveillance coverage, significantly enhancing situational awareness and rapid response to security or safety incidents.
- Reliable HD video feeds, supporting perimeter and process area surveillance, even in environments where cabling is not feasible.
- Improved Health, Safety, and Environment (HSE) compliance—supporting BPCL's record-setting safety milestones.
- Reduced operational downtime and maintenance costs versus traditional cabled solutions.
- Laid the groundwork for further digital security automation and expansion of the surveillance ecosystem.

Why Wavesight?

- Proven expertise in industrial wireless networking for oil & gas and critical infrastructure.
- Solutions engineered for high-stress, hazardous environments—meeting fire and safety codes.
- Deep integration capabilities with established CCTV/VMS platforms.
- Scalable, future-ready wireless mesh options for expanding surveillance and automation.
- Trusted by leading public and private sector enterprises across India.