![Cambium Networks™]

Textra Transforms Indian Port and Construction Roads With Wireless Connectivity

> "Our client is now using wireless solutions from Cambium as both their primary and failover communications network."

SANDEEP VARMA,
MANAGING DIRECTOR,
TEXTRA SOLUTIONS PVT. LTD.

ePMP solutions brought field-proven reliability, GPS-sync-enabled scalability and high-quality performance to the port yard and construction roads.
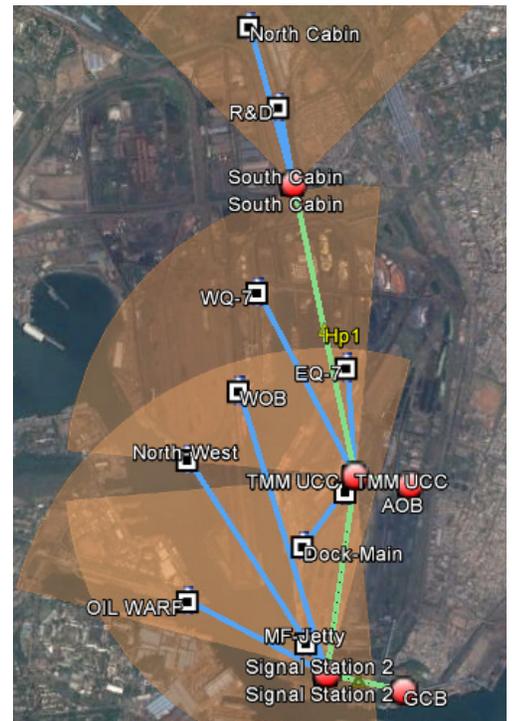
The Challenge

INDIA, ONE OF THE TOP 20 TRADING COUNTRIES IN THE WORLD, depends heavily on the efficient import and export of goods. Ports and construction roads, in particular, play a vital role in India's trade and commerce growth. Any problem in communication can quickly lead to a logistics disaster and bring the exchange of goods to a halt; a disruption to trade can cost money. When the communication system needed to be upgraded to connect new radio-frequency identification (RFID) systems, wireless was the technology of choice. Wireless broadband provides high-speed connectivity at a fraction of the cost of installing fiber.

Choosing the right wireless technology is vital to success. Since 2014, Textra Solutions has provided wireless solutions in India for smart city, industrial and agricultural applications. When facilities in the strategic port of Visakhapatnam needed to be connected, Textra knew that between the dusty, harsh environment and cement roads where more than 1,000 trucks pass each day, digging trenches for communications was not an option. Textra saw the opportunity to solve the RFID challenge and leverage the wireless communications infrastructure to address additional challenges:

1. Enable Industrial IoT (IIoT) RFID systems for all port entry and exit gates
2. Provide outdoor Wi-Fi on port berths that previously did not have internet access
3. Improve security by connecting closed-circuit television (CCTV) at selected locations

The port needed coverage over an 11-kilometer area. To meet the connectivity goals, Textra needed a wide area point-to-multipoint (PMP) wireless broadband solution with the capacity to grow as needs evolved, and one that would perform with high reliability to ensure business continuity across the port.

The network of Cambium Networks radios covers a radius of 11 kilometers.

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The Solution

TEXTRA CHOSE CAMBIUM NETWORKS' ePMP™ WIRELESS BROADBAND radios and cnPilot™ Outdoor Wi-Fi Hotspots for their easy installation, industry-standard interoperability with devices and proven record of high reliability. Textra used the LINKPlanner™ software to model the system and preview performance to ensure that throughput capacity demands would be met. The solution design of 54 Cambium Networks devices delivered a private network to aid in port management, CCTV systems for security and RFID connectivity for IIoT devices. Textra installed a combination of:

- Backhaul infrastructure
  - 4 PTP wireless backhaul links
  - 4 ePMP Force 110 PTP backhaul links
- Multipoint distribution WAN
  - 3 ePMP 1000 GPS Sync Access Points
  - 24 ePMP Force 200 Subscriber Modules
  - 4 ePMP Force 110 Subscriber Modules
- Access
  - 19 cnPilot Outdoor Wi-Fi Hotspots

Cambium Networks' ePMP wireless broadband and hotspot devices offer high performance with GPS synchronization, scalability that enables frequency reuse and high throughput to support bandwidth-intensive services. ePMP Force 200 Subscriber Modules connect to the Wi-Fi hotspots; hotspots also provide Wi-Fi connectivity to tablets, cell phones and laptops to open the port's management application.

The LINKPlanner network planning tool gave Textra an extra edge by helping them focus on an optimized wireless communications design. Site survey, solution planning, deployment and training was completed within one week. Once installed, the entire end-to-end network is monitored and managed by the cnMaestro™ management system to maximize network availability.
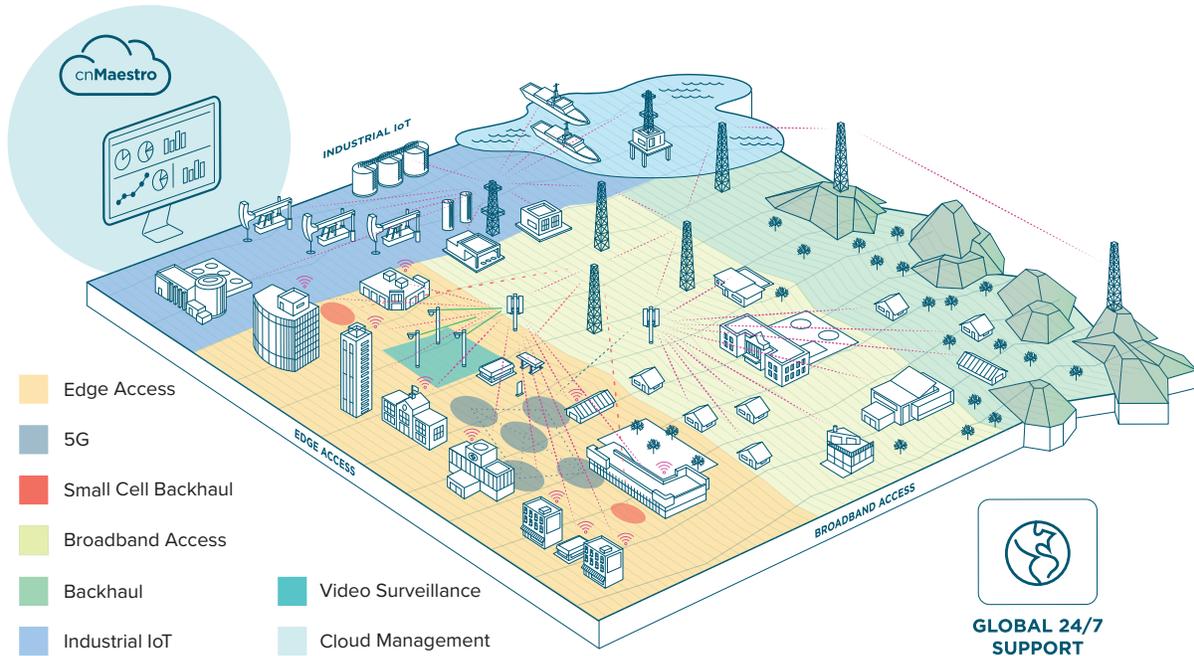
The Results

THE INITIAL NEED TO CREATE A NETWORK FOR RFID SYSTEMS WAS MET AFTER DEPLOYMENT. For years, the port planned to have a wired network for primary communications and a wireless network on standby should the main network fail. Based on the reliable communications performance over the wireless network, the port standardized Cambium Networks' wireless products as both their primary and secondary communication systems. They consistently depend on Cambium Networks' radios to keep cargo moving smoothly.

Next Steps

TEXTRA PLANS TO SUPPORT THE RAPIDLY GROWING DEMAND for their customers' IIoT solutions with cnReach, Cambium Networks' wireless solution for SCADA backhaul. With cnReach, Textra will monitor network performance, push configuration changes and meet new demands for more data. Additionally, Textra plans to add a wireless low-power wide-area network (LPWAN), which will interconnect low-power devices across long distances. A combination of these steps will offer the port end-to-end connectivity and a minimized total cost of ownership.

Legend:
- Edge Access
- 5G
- Small Cell Backhaul
- Broadband Access
- Backhaul
- Industrial IoT
- Video Surveillance
- Cloud Management

GLOBAL 24/7 SUPPORT

Cambium Networks' Wireless Fabric of technology solutions enables network operators to tailor connectivity solutions to meet exact requirements and grow as needs evolve.