

# CASE STUDY :

# BANDICOOT MOBILITY+

## AT CHHATRAPATI SAMBHAJI NAGAR(AURANGABAD)

City-Wide Robotic Manhole Cleaning Through Vehicle-Integrated Automation

**CLIENT :**

Chhatrapati Sambhaji Nagar Municipal Corporation (formerly Aurangabad Municipal Corporation)

**LOCATION :**

Chhatrapati Sambhaji Nagar (Aurangabad), Maharashtra, India

**SECTOR :**

Urban Sanitation /  
Public Health Engineering

**ROBOTIC SOLUTION DEPLOYED :**

Bandicoot Mobility+\*

\*Vehicle-integrated robotic system for remote manhole cleaning.

## PROJECT BACKGROUND

To address growing sanitation challenges, including frequent sewer blockages and health risks to workers, Chhatrapati Sambhaji Nagar Municipal Corporation adopted Bandicoot Mobility+ as a modern alternative to traditional manhole cleaning. This vehicle-mounted robotic solution enabled the city to perform safe, fast, and highly efficient cleaning across urban zones.

## DEPLOYMENT HIGHLIGHTS

- Robot Type:** Bandicoot Mobility+
- Integration:** Mounted on smart sanitation vehicle.
- Total Manholes Cleaned (1 Year):** 5,075
- Average Cleaning Rate: 20–25 manholes/day.
- Operating Zones:** Multiple wards across city regions.
- Team Model:** Operated by trained sanitation workers converted into robotic operator.

## CHALLENGES ADDRESSED

- Manual pit cleaning risks, especially during monsoon and gas buildup.
- Inaccessibility of manholes in congested zones.
- Slow cycle times and inconsistency with older methods.
- Pressure on ULB to modernize sanitation infrastructure.

## TECHNOLOGY IMPACT

- Fully Automated Operation:** No human entry required.
- Mobile Access:** Vehicle-based unit rapidly deployed across city zones.
- Efficient Sludge Removal:** Robotic arm + suction module integrated.
- Real-Time Visibility:** Digital dashboard tracked and logged all operations.

## OUTCOMES & BENEFITS

- 5,075 manholes cleaned within one operational year.
- Created a worker-safe, tech-enabled sanitation ecosystem.
- Enabled round-the-clock operations with minimal manual intervention.
- Enhanced citizen confidence in smart governance initiative.