



Industry:
Rail Infrastructure

Solution:
Passenger Announcement System (PAS)

Organization/End User:
Bengaluru Metro Rail Corporation Ltd (BMRCL)

Country:
India

Locations:
27 stations and three depots

Year of Installation:
2021-2025

System features:
VIPEDIA, V2000 and MPS microphones

Customer:
HEINRICH

Bengaluru Metro

India's second-longest metro network

BMRCL continues to rely on hardware from Zenitel for a dependable and sustainable operation, ensuring high system availability while minimising its environmental impact.

The Customer/End User

Founded in 2011, BMRCL—also known as Namma Metro—is the second-longest operational metro network in India with average daily ridership figures of over 760,000 people. With 68 stations across the city, Namma Metro significantly contributes to the reduction of carbon emissions in Bengaluru thanks to the installation of energy-efficient equipment from Zenitel.

HEINRICH India, a leading provider of rail audio solutions across India, in collaboration with main contractor Larsen & Toubro, was awarded the project for the supply, installation, testing, and commissioning of an energy-efficient, high-availability Passenger Announcement System (PAS) with integrated control software.

The Requirement

HEINRICH was contracted to provide Public Address and Voice Alarm (PAVA) systems (also referred to as PAS systems) across 30 locations, consisting of 27 stations and three depots.

This builds on Zenitel's established reputation as the supplier of PAS systems for other lines within the Bengaluru Metro network.

As one of the busiest metro services in India, the phased modernisation of Namma Metro's PAVA systems is a critical step in ensuring safe, smooth, and efficient operations. The upgraded systems are designed to deliver clear and intelligible announcements across a fully integrated platform, aligning the network's communications with international safety standards while enhancing service delivery for over 760,000 daily passengers.

Sustainability was a key consideration for BMRCL, who are committed to minimising the environmental impact of the metro network.

The Solution

At each of the 27 stations, HEINRICH deployed a state-of-the-art Zenitel five-zone system, consisting of a single VIPEDIA-12-NET and two V2000 power amplifier mainframes. These feature built-in hardware bypass redundancy and battery backup. A local MPS01 desk-mounted gooseneck paging microphone completed the setup. This architecture was also extended to the depots.

Zenitel's IP-enabled VIPEDIA-12-NET system is known for its high quality and reliability, meeting the typical expectations for rail projects. Its compact design provides a cost-effective solution, eliminating the need for multiple component racks while maximising system availability. The amplification is handled by Zenitel's V2000s, which

feature hot-swappable D500 500W amplifier cards, offering significant advantages in terms of maintenance and scalability. Additionally, intelligent sleep technology reduces power consumption, further enhancing energy efficiency.

The MPS01 microphones integrate seamlessly with Zenitel's PAVA systems, offering features such as live or store-and-forward broadcasts, as well as the ability to trigger zonal functions like prerecorded messages, background music (BGM), and volume control.

Centralised control and monitoring were achieved using the HEINRICH Control Suite, leveraging Zenitel's established VIPA-API. This interface is relied upon worldwide to connect and manage hundreds of stations efficiently.

Furthermore, the PAS system was designed to be EN 54 certified, ensuring full compliance with European standards for fire safety

equipment, and delivering the highest level of performance and safety.

The Result

All 27 stations are now fully operational, with the three depots set to be completed later in 2025. The newly installed state-of-the-art system ensures continuity across the Bengaluru Metro Rail network, providing a reliable PAS system with a minimum expected lifespan of 15 years. The upgrade to newer, energy-efficient technologies reduces operational costs and ensures continuous operation, even in the event of power disruptions or other unforeseen issues.

The people of Bengaluru now benefit from enhanced safety and comfort on this vital segment of the transportation network. As Namma Metro expands, Zenitel's scalable and flexible PAS is poised to support future growth, seamlessly integrating new stations and lines as they are added.



"At Heinrich, we are proud to contribute to the Bengaluru Metro Rail Project Phase-II by delivering state-of-the-art PAS systems with integrated software across 27 stations and three depots."

"With 27 stations fully operational, we remain committed to completing the three depots as soon as civil readiness allows, ensuring seamless and efficient communication for commuters."

Why Zenitel?

Zenitel is well positioned to drive the future of intelligent critical communication solutions. Through our portfolio of IP products and solutions, with built-in intelligence and a focus on cybersecurity, we provide organisations with superior, scalable security and flexibility. Zenitel is the proven, preferred choice for environments requiring crystal-clear audio to ensure the protection of human life, property, assets and the management of critical activities. With interoperability at all levels, we seamlessly integrate with access control, video management and security platforms-