Industry:
Rail Infrastructure

Solution:
Passenger Announcement System (PAS)

Organization/End User:
Kolkata Metro Rail Corporation Limited

Country:
India

Locations:
12 stations and one depot

Year of Installation:
Completed March 2024

System features:
VIPEDIA, V2000 and MPS microphones

Customer:
HEINRICH

Kolkata Metro

India's fast-growing metro network

KMRCL uses Zenitel hardware to deliver seamless commuter experiences across the East – West Metro, with a reliable, high-quality Passenger Announcement System that reduces environmental impact.

The Customer/End User

The Kolkata Metro serves Kolkata and its metropolitan region in West Bengal, India. The Green Line, the latest addition to the metro's expansion, is known as East-West Metro and serves over 100,000 daily passengers. Once fully completed, passenger numbers are expected to increase to around one million. As Eastern India's main business and financial hub with a growing population, Kolkata must offer a reliable mode of transit to alleviate congestion, enhance connectivity and cut CO_2 emissions. HEINRICH India, a leading provider of rail audio solutions, contractor Hitachi Rail and sub-contractor Honeywell Automation India Ltd, were awarded the project to design and install a high-availability Passenger Announcement System (PAS) with integrated control software.

The Requirement

HEINRICH was contracted to provide Public Address and Voice Alarm (PAVA) systems across 12 stations and one depot.

As one of the busiest metro networks in India, it was imperative to focus on high system availability for seamless operations even in the event of a failure. The installed systems would be crucial for providing timely train schedules, general announcements and passenger alerts, aligning with Kolkata Metro's aim to provide enhanced connectivity and a reliable service for thousands of passengers every day. The upgraded systems were required to deliver clear and intelligible announcements even at peak times, whilst also adhering to international safety standards.

Zenitel and Heinrich have previously supplied hundreds of PAS systems for other lines within the Indian Metro network including Bengaluru Metro,

establishing a reputation for reliability and success. Zenitel's eco-friendly technologies and energy-efficient amplifiers were another factor in their selection for the project, as reducing carbon-emissions throughout the network is an important aim for the corporation.

The Solution

HEINRICH successfully installed Zenitel's IP-enabled VIPEDIA product range into twelve stations and one depot, delivering much-needed high availability, high quality and impressive efficiency. In each location, a state-of-the-art Zenitel five-zone system was deployed, each consisting of two VIPEDIA-12-NET systems and two V2000 amplifier frames, delivering hardware redundancy at network and amplifier level. MPS01-GO-IP and MPS10-GO-AN desk-mounted gooseneck paging microphones completed the setup.

Zenitel's VIPEDIA-12-NET system provides the perfect solution for high-quality professional audio

processing, as well as the reliability needed for rail projects. Its compact 1U rack mount enclosure is cost-effective, whilst maximising system availability.

Two Zenitel V2000s handle the amplification, supporting up to 2000W distributed across a maximum of ten individual amplifier cards. Its modular design supports lightweight, hot-swappable D500 and D150 amplifier cards which are software-configurable. This, along with a low standby current, helps optimise both space and power efficiency.

Both MPS01 microphones integrate seamlessly with Zenitel's PAVA system, configurable for live or store-and-forward broadcasts. It can also trigger zonal functions such as pre-recorded messages and background music (BGM).

To achieve seamless integration, HEINRICH leveraged Zenitel's VIPA-API interface, enabling synchronised audio and video across the network. Connecting with HEINRICH's central control and monitoring platform, system operators

were given real-time control and monitoring of the thirteen locations, with provisions for potential future expansion as the metro network grows.

The PAS system is EN 54-certified, ensuring full compliance with European standards for fire safety equipment, and delivering the highest level of performance and safety.

The Result

Installation was successfully completed in March 2024. Kolkata residents have since been benefitting from this state-of-the-art system which delivers a reliable and safe passenger-centric service. The energy-efficient technologies not only reduce operational costs but ensure continuous operation, even in the event of power loss or other unforeseen disruptions.

As the metro network grows, Zenitel's scalable PAS can grow with it, integrating with new stations and depots as needed.

"HEINRICH is proud to have successfully delivered the PAS systems for the Kolkata East-West Metro Rail Project.

With 12 stations and one depot fully operational, this milestone reflects our commitment to excellence and enhancing public transit infrastructure for seamless commuter experiences."

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-