zenitel

CASE STUDY

Corporate and Public Building



Natural History Museum Abu Dhabi

Zenitel and SIBCA delivered a fully redundant PAVA and intercom solution for the Natural History Museum Abu Dhabi.

Market Segment:
Corporate and Public Building

Country of installation:
United Arab Emirates

Year of Installation
2025

End Customer:
Department of Culture and Tourism - DCT

System Integrator:
SIBCA
https://www.sibca.com/

Solution:
Public Address Voice Alarm (PAVA), Intercom & BGM

Key Products:

- **VIPEDIA-12**
- **V2000**
- **MPS**
- **VIPA-WS**

The End Customer

Located in the Sa'adiyat Cultural District in Abu Dhabi, the Natural History Museum is part of the UAE's broader vision to establish a globally recognized cultural destination.

Developed under the Department of Culture and Tourism (DCT), the museum is designed to welcome large numbers of visitors while protecting valuable collections and ensuring a safe and seamless guest experience.

As a new-build cultural venue, the project required critical communication systems capable of supporting both day-to-day operations and emergency response across a complex, high-profile site.

The Requirement

The museum required a fully compliant Public Address and Voice Alarm (PAVA) system capable of delivering clear emergency messaging, background music distribution, and monitored paging functionality across the entire site. In parallel, the project also required intercom integration with the building's access control infrastructure.

Because the site needed to comply with Abu Dhabi Civil Defense requirements, all core systems and components had to be approved accordingly and aligned with EN54 standards.

The project team also needed to ensure:

- High system redundancy and fault tolerance
- Continuous operation during power failures
- Clear and intelligible audio throughout the facility

- Centralized monitoring and control
- Reliable network architecture independent from third-party switching infrastructure
- Integration with fire alarm systems, BMS, access control, and Dante-enabled audio sources

Given the importance of the venue, operational uptime and fast fault reporting were critical considerations throughout the system design.

The Solution

Together with Zenitel and system integrator SIBCA, the project team implemented a fully distributed PAVA and intercom solution covering the entire museum site.

The solution was built around Zenitel's VIPEDIA platform and included:

- 14 VIPEDIA-12-NET controllers
- 1 VIPEDIA-12-PRO
- 16 V2000 modular amplifiers
- 7 paging microphone stations
- VIPA-WS graphical workstations
- 10 intercom endpoints

The architecture consists of seven distributed racks connected through a dedicated redundant fiber optic ring network. Each rack includes both primary and standby DSP audio controllers, ensuring uninterrupted operation in the event of a controller failure.

To further strengthen system resilience:

- Amplifiers were configured with N+1 redundancy
- Speaker circuits were designed as Class A loops
- Paging microphones were connected through dual redundant paths
- All critical components were continuously monitored for faults

In the event of mains power failure, the system automatically switches to a fully monitored EN54-compliant DC backup supply capable of supporting 24 hours of standby operation followed by 30 minutes of full-load emergency use.

The solution was integrated with the fire alarm system, Building Management System (BMS), and Lenel access control platform for intercom functionality, while Dante compatibility enabled flexible background music distribution across the site.

"The project required a highly resilient architecture with strict compliance requirements. Zenitel's distributed PAVA platform gave us the flexibility, redundancy, and integration capabilities needed for a complex cultural venue like the Natural History Museum."

Operators manage and monitor the system through touchscreen graphical interfaces in the central command room, enabling live paging, zone selection, and immediate fault visibility through a visual representation of the site.

The Result

The completed solution provides the Natural History Museum with a fully redundant and centrally managed communication platform designed to support both everyday operations and emergency response.

By combining PAVA, intercom, and background music functionality within one integrated architecture, the museum now benefits from a future-ready communication system.



Why **Zenitel?**

Zenitel is well positioned to drive the future of intelligent critical-communication solutions. Through our portfolio of IP products & solutions, with built-in intelligence and a focus on cybersecurity, we provide organizations 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.

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