

Smart Security Solutions Powered By AI-Driven
Facial Recognition & Video Analytics Technologies

PT. Yamaha Musical Products Asia

Introduction

Established in 2018, PT. Yamaha Musical Products Asia (YMPA) is one of Asia's leading musical instrument manufacturer serving customers around the world.

YMPA worked together with PT. NEC Indonesia (NEC Indonesia) to implement a fully integrated, smart security solution powered by facial recognition and video analytic technologies in its new factory located in West Cikarang, Bekasi, Indonesia. The project has enhanced the convenience, efficiency and security levels of the factory while allowing YMPA's management to have a better view of their employees' attendance.



Challenges



Atsushi Tonouchi
Group Manager
IT Promotion Group
Musical Instruments and Audio
Products Production Group
YAMAHA CORPORATION

Prior to NEC Indonesia's involvement, YMPA's employees had to go through a tedious manual registration process when they check-in/check-out from the factory. This process was time-consuming and caused congestions during peak periods. In addition, the physical registration records had to be manually transcribed into their HR system. This was prone to

human errors and delays, and made it difficult for YMPA to accurately track employees' attendance and manage productivity levels.

A registration system based on palm print recognition technology was deployed in other Yamaha Music factories, but it did not meet YMPA's expectations. The system required employees to physically touch the biometric readers, which was unhygienic and slow to authenticate their identities.

"To be a role model of Yamaha Music group manufacturing factories, we have set high standards for YMPA's operations, business processes and IT systems," said Mr. Atsushi Tonouchi, Group Manager at Yamaha Corporation Japan. "We also understood that having a robust safety and security is a key factor to make a workplace comfortable and enjoyable for everyone. That's why we decided to modernize the whole registration and attendance management processes and implement new AI-based security solutions across our factory."

Solutions



Indra Nugraha Abdullah
Production Control Manager
PT. Yamaha Musical Products
Asia

Having assessed several offerings from various technology providers since embarking on the modernization, YMPA concluded that NEC Indonesia's proposal for the fully integrated, smart security solution fits YMPA's requirements and expectations best.

The new smart registration and attendance management system from NEC Indonesia utilizes state-of-the-art facial recognition technology capable of performing identification and verification of an employee just within one second. The information on employees' attendance captured by the system is automatically uploaded to YMPA's existing HR system in real-time, thus removing the associated errors and delays arising from the previous process.

The employee face image database is seamlessly integrated with a new access control system, which was also provided by NEC Indonesia, to ensure only authorized employees are allowed access to certain restricted areas.

NEC Indonesia has also supplied YMPA with an AI-based video analytics solution that analyzes video feeds from CCTV cameras installed at the factory in real time. An alert is triggered the moment it detects abnormalities such as loiterers around the controlled areas of YMPA's facility.

"As we increase our production capacity at YMPA, it is important to continuously improve our effectiveness and efficiency by leveraging on advanced technology solutions," said Mr. Indra Nugraha Abdullah, Production Control Manager at YMPA. "Beyond improving our employee registration and attendance systems, we also needed a solution that can seamlessly interact with other systems such as access control management, HR and security systems, to improve employees' productivity levels."

Results

NEC Indonesia's integrated smart security solutions have brought various benefits to YMPA's operations.

The employee registration and attendance management process has been significantly streamlined with facial recognition technology. YMPA's staff will only need to position themselves in front of camera for a second to complete their check-in and check-out process, thus shaving off the time required for clearance by 50%. With an accurate overview of the facility's existing manpower patterns, YMPA's management team is now able to develop plans aimed at improving productivity levels of its facility.



In addition, YMPA is also using facial recognition technology to identify pre-registered guests and VIPs to provide a customized greeting message when they arrive at the facility.

With NEC Indonesia's support, the existing CCTV cameras at the factory are now equipped with abnormal behavior detection technology to provide for a safer and more secure environment. NEC's video analytics solution is scalable, flexible and supports future integration with other systems should YMPA require them.

Mr. Arif Budi Subekti, Vice President, Enterprise Solution Division, NEC Indonesia said, "NEC's advanced solutions were widely accepted by manufacturing companies in Japan, and we are keen to bring our industry-leading expertise to the Indonesian market. We are delighted to be selected by YMPA to support their business growth and rapid expansion with our innovative biometric and AI technologies."

Mr. Indra added, "We are delighted with NEC Indonesia's excellent services throughout the process. We are looking at investing more in NEC's world-leading smart manufacturing solutions to further enhance our productivity and operation."

Yamaha Music group has 6 factories across Indonesia, and they are now looking to implement the smart security solutions from NEC Indonesia across its other sites.

