



Indonesian fishing port's tech upgrade: AIoT for smarter operations

CASE STUDY

CUSTOMER PROFILE



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Organization:

Nizam Zachman Port

Location:

Indonesia

Industry:

Public transportation

Solution:

Anti-corrosion thermal
& optical bi-spectrum
camera, security radar,
DarkFighter IR network
speed dome, network
speaker, HikCentral
Professional

Nizam Zachman Port, one of Indonesia's most important fishing hubs, supports thousands of local fishermen and maritime businesses. Recognizing the potential to enhance operations and better serve the community, the port management deployed Hikvision's AIoT (AI-powered Internet of Things) technologies to make the port smarter and more efficient.

The challenge

Providing security and operational management to a large shopping center



Every day, Nizam Zachman Port handles huge volumes of fish destined for both the Indonesian domestic market and for export around the world. Such an operation relies heavily on technologies that can make the port safer, more efficient, and more secure. Recently, the port management identified several key areas where they believed technology could make a significant difference.

The first was to develop comprehensive capabilities to identify ships entering their waters, including unregistered fishing boats that don't use standard Automatic Identification System (AIS) signaling. They wished to adopt a unified detection approach that would operate effectively in all weather conditions, from foggy mornings to dark nights.

The management team also recognized the value of upgrading their ship counting and reporting systems. While their experienced staff performed excellent manual counting, management knew that combining human expertise with automated technology could deliver even more accurate records. This would be particularly valuable during busy periods, and when ships arrive at night and depart before dawn.

Another area for improvement was communication. Here, the management team wanted to replace traditional communication methods with a modern audio system for efficient message delivery across the harbor.

The solution

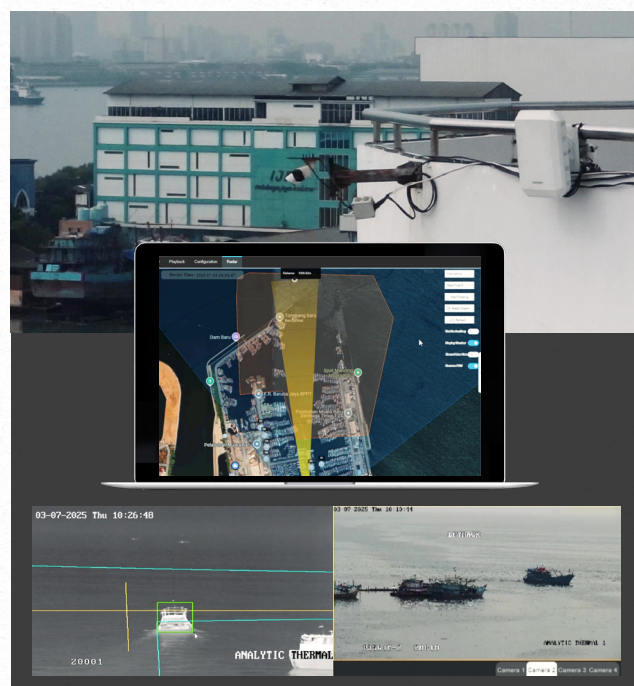
Innovative technologies for a smarter port

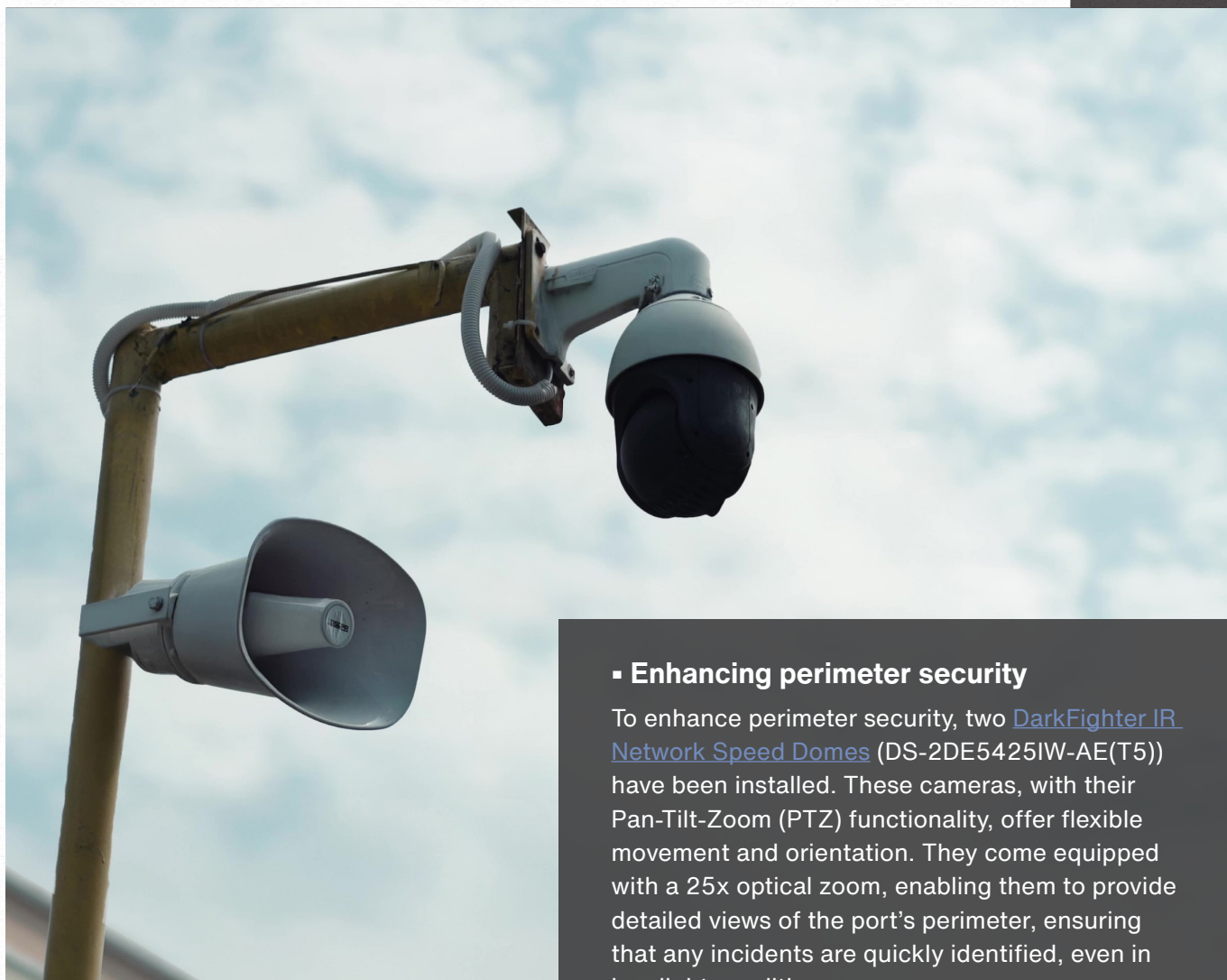
To put their plans into action, Nizam Zachman Port partnered with [PT. Dea Global Niaga](#), who designed a comprehensive system that perfectly matched the port's ambitious goals.



▪ Ship detection and identification

At the heart of the new system is an [Anti-corrosion Thermal & Optical Bi-spectrum Network Positioning System](#) (DS-2TD6267-100C4L/WY). This specialized camera uses thermal imaging to detect heat signatures from ship engines and hulls up to 2 km away and works equally well in fog, rain, or darkness. The casing meets the NEMA-4X anti-corrosion standard, ensuring durability in the salty sea environment. The camera is complemented by a [Security Radar](#) (DS-TDSB0W-FK/2km). At any point in time, this can identify and track the movement of up to 32 vessels in the harbor, providing detailed speed and distance information. When the radar detects movement, it automatically directs the camera system for seamless coordination.





▪ Enhancing perimeter security

To enhance perimeter security, two [DarkFighter IR Network Speed Domes](#) (DS-2DE5425IW-AE(T5)) have been installed. These cameras, with their Pan-Tilt-Zoom (PTZ) functionality, offer flexible movement and orientation. They come equipped with a 25x optical zoom, enabling them to provide detailed views of the port's perimeter, ensuring that any incidents are quickly identified, even in low-light conditions.

▪ Improving communications across the port

For communication, seven [Network Speakers](#) (DS-QAZ1310G1T-E) have been installed across the port. These speakers allow the command center to broadcast announcements and alerts much more efficiently than before.

▪ Centralized intelligence

Everything connects through Hikvision's [64-Channel 8K Network Video Recorder](#) (DS-9664NI-M16/R), to the [HikCentral Professional Platform](#). This video management platform serves as the system's brain, automatically counting ships, analyzing patterns, and generating comprehensive reports that provide valuable insights into port traffic.



The benefits

Enhanced efficiency, accuracy, and community safety

According to Mr. Al Fajar Alam, a Port Master at Nizam Zachman Port, the results have been remarkable. “The capability to maintain high performance in all-weather ensures that no ship goes undetected,” he said. The automated ship counting system delivers accurate information that improves everything from fee collection to capacity planning. As a result, port operations became significantly more efficient, with automated systems handling routine monitoring while staff focus on higher-value activities.



“Communication has also been improved dramatically,” Mr. Alam added, “Port staff can now deliver clear messages instantly throughout the harbor. Emergency announcements, docking instructions, and routine communications now flow smoothly through the IP speaker system.”

For the broader fishing community, these improvements mean a safer, more organized port experience. Fishing operations benefit from enhanced security and smoother processes, while the entire local maritime economy gains from having a truly modern facility.



The transformation showcases what's possible when maritime tradition meets AIoT. Nizam Zachman Port hasn't just upgraded technology—they've reimagined how a fishing port operates in the modern era. As other ports across Indonesia seek modernization, this project stands as an inspiring example of how AIoT can enhance community-focused maritime facilities while preparing them for future growth.



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--- Mr. Al Fajar Alam, a Port Master at
Nizam Zachman Port

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