



Securing Trade at Scale

Meridian Port Services Enhances Cargo Screening at the Port of Tema with Smiths Detection

The Customer:

Meridian Port Services (MPS), Port of Tema, Ghana

Meridian Port Services (MPS) operates Ghana's largest container terminal at the Port of Tema, West Africa's busiest maritime gateway. A joint venture between Ghana Ports and Harbours Authority (GPHA) and Meridian Port Holdings Limited which is in turn a joint venture with Africa Global Logistics (AGL) and APM Terminals.

MPS plays a pivotal role in the country's logistics network, handling over 90% of Ghana's containerised trade.

As part of an ongoing expansion programme, MPS continues to invest in advanced port infrastructure and digital systems to strengthen Tema's position as a strategic regional hub. Central to this modernisation is the need to secure the growing volume of cargo entering and leaving Ghana through advanced, non-intrusive inspection technologies.

To maintain consistently high operational standards at the Port of Tema, MPS has pursued continuous innovation to enhance and streamline processes. Since 2019, MPS has worked in close partnership with Smiths Detection, deploying six HCVP Z60-D5 systems to support X-ray screening for both import and export traffic, alongside a Dataset Management System (DMS).

The DMS provides a powerful and flexible platform for storing, managing, and analysing data and images from inspected cargo across the terminal.

The Challenge:

Keeping Pace with Growth and Security Demands

With container throughput expected to continue rising, MPS required a reliable, high-throughput cargo screening solution capable of maintaining 100% inspection coverage without slowing operations.

The six existing HCVP systems and centralised Data Management System (DMS), installed in 2019, had delivered consistently strong performance but were approaching the limits of their redundancy and resilience, heightening the risk to sustained service continuity. As container volumes grew, higher scanning throughput placed additional pressure on data management, system uptime, and disaster recovery capacity.

At the same time, MPS needed to upgrade its infrastructure to meet more stringent Service Level Agreements (SLAs) under a renewed service contract, ensuring uninterrupted screening availability and rapid system recovery in the event of a fault became a critical operational requirement.



The Solution:

Scalable High-Energy Screening with Advanced Data Management

Smiths Detection delivered a comprehensive upgrade and expansion programme for MPS, designed to strengthen resilience while supporting future growth. The solution includes:

- Upgrade of six existing HCVP Z60-D5 drive-through scanners, improving system robustness and data redundancy.
- Procurement of two new HCVP Z60-DM systems, increasing scanning capacity to accommodate future growth in container traffic.
- Deployment of a new server architecture delivering full redundancy, disaster recovery, and enhanced cybersecurity.
- Renewal of a five-year service contract, supported by a locally based Smiths Detection Field Service Engineer to ensure rapid response and preventive maintenance.

The upgraded systems will support the inspection of both import and export containers, ensuring 100 % cargo screening and real-time image management through a secure, networked DMS environment.

Installation is scheduled for completion by the end of FY 2026.

The Outcome:

Enhanced Capacity, Resilience, and Service Excellence

Once fully deployed, the upgraded HCVP network will deliver:

- Continuous scanning of 100 % of containers supported by increased throughput.
- Improved image quality and analysis capability through the enhanced DMS.
- Greater system resilience, ensuring maximum uptime through full redundancy and disaster-recovery protocols.
- Strengthened local support through new dedicated Smiths Detection engineering resources aligned to the new service contract.
- Future-ready infrastructure capable of supporting continued growth and potential deployment of additional scanners as container volumes expand.

By modernising its screening architecture, MPS is reinforcing Tema's reputation as one of Africa's most efficient and secure ports, supporting economic growth while strengthening national security.



Our partnership with Smiths Detection continues to deliver reliable and future-ready solutions for Tema Port. These upgrades will strengthen our operational resilience, enhance data integrity, and ensure that our cargo screening remains efficient and compliant as trade volumes grow."

Arlais Ntchana, Head of IT, Meridian Port Services

Why Smiths Detection?

MPS chose to continue its partnership with Smiths Detection based on several key factors:

- Proven performance of the existing Smiths Detection systems installed in 2019.
- Demonstrated reliability and strong service support through a long-term local Smiths Detection partner presence in Ghana.
- Advanced system capabilities, that combine high-energy imaging, automated manifest validation, and integrated data management.
- A competitive commercial offer underpinned by global expertise and local responsiveness.

This decision builds on Smiths Detection's long-standing relationship with Ghana's customs and port authorities, where technology has consistently supported both trade facilitation and national security objectives.

Summary:

The MPS Ghana project demonstrates Smiths Detection's ability to combine global technology leadership with local service delivery in high-volume port environments.

Through the deployment of advanced HCVP systems and a resilient DMS architecture, Tema Port now benefits from enhanced throughput, improved reliability, and a scalable foundation for the years ahead, securing trade while facilitating growth across West Africa.