

Transnet Engineering



Procurement of Network Switches: Scope of Work & Requirements

Transnet Engineering ICT

Title	Supply and Installation Scope of Work & Requirements for Network Switches
Functional Area	
Executive Sponsor	
Service Owner	
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Scope of work for Network Switches

1. Document Version Control

The document version history for this Network Equipment event is as indicated below.

Version:	Date changed:	Changed by:	Change description:
V1	30/06/2025	Daniel Hlahla	Document Review Update

Scope of work for Network Switches

Document Purpose

This document defines the scope of work and requirements for the supply, installation, commissioning, configuration, and integration of Network Switches for the High Definition (HD) Internet Protocol (IP) surveillance system project at Koedoespoort Transnet Engineering.

Business Context & Scope Overview

1. **Surveillance System Commissioning:** Transnet Engineering is currently commissioning surveillance system equipment based on Huawei technology. The availability and reliability of network switches are critical for the successful integration and operation of this surveillance system.
2. **Importance of Network Switches:** The network switches are essential to ensure seamless connectivity and data transmission for the HD IP surveillance system. Proper functioning of these switches is crucial to:
 - Maintain high-quality video surveillance.
 - Ensure real-time monitoring and security.
 - Prevent data loss and ensure system reliability.
3. **Integration with Existing Systems:** The network switches must be compatible with the existing Huawei-based surveillance equipment. This compatibility is vital to avoid integration issues and ensure smooth operation of the surveillance system.
4. **Service Provider Requirements:** Transnet Engineering is seeking a service provider to supply the following network switches that will integrate with the surveillance system:
 - Supply of network switches.
 - Installation and commissioning of the switches.
 - Configuration and integration with the existing Huawei surveillance equipment.

5. Objectives

Transnet Engineering Koedoespoort plant is requesting a quotation for the supply, installation, commissioning, configuration and integration of the Network Switches for the High Definition (HD) Internet Protocol (IP) surveillance system project.

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Transnet Engineering is currently commissioning surveillance system equipment which is based on Huawei technology, and we are looking for a service provider to supply and install the below Network switches that will be able to integrate with the surveillance system infrastructure.

Type	Technical Specification		Quantity
Type 1: 8 Port PoE Industrial Access Switch	High Capability	Supports 8 x GE electrical ports, 2 x GE optical ports, 2 x 10G optical ports, 1 x DI/DO port.	18
		Forwarding performance: >40Mpps	
		Supports PoE+ power supply and perpetual Poe. The maximum power of the switch is 240W.	
	Industrial-grade design	Heat dissipation mode: natural heat dissipation without fans.	
		Long-term operating temperature: -40°C to 75°C.	
		Relative humidity:5% to 95% (non-condensing).	
		IP protection level: IP40.	
		Electrical service ports support ±6 kV surge protection in common mode.	
		EN50155/EN50121-4 /EN50121-3-2 compliant.	
	Reliability	Dual power supplies for redundancy	
		Supports ERPS, a standard fast ring network switching protection technology, and the ring network switching time is less than 50 ms.	
Integration	Must be able to be proven to integrate with Huawei aggregation switch and CCTV on the exiting network		

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Type 2: 8 Port PoE++ Industrial Access Switch	High Capability	Supports 8 x GE electrical ports, 2 x 10G optical ports, 1 x DI/DO port, 1 x RS485port.	19
		Forwarding performance: >40Mpps.	
		Supports PoE++ power supply and perpetual PoE. The maximum power of the switch is 240W.	
	Industrial-grade design	Heat dissipation mode: natural heat dissipation without fans.	
		Long-term operating temperature: -40°C to 75°C.	
		Relative humidity: 5% to 95% (non-condensing).	
		IP protection level: IP40.	
		Electrical service ports support ±6 kV surge protection in common mode.	
		EN50155/EN50121-4 /EN50121-3-2 compliant.	
	Reliability	Dual power supplies for redundancy	
Supports ERPS, a standard fast ring network switching protection technology, and the ring network switching time is less than 50 ms.			
Integration	Must be able to be proven to integrate with Huawei aggregation switch and CCTV on the exiting network		
Type 3: 24 Port Indoor Access Switch	High Capability	Supports 24x GE electrical ports, 4 x 10G optical ports, 2 x stack ports.	2
		Forwarding performance: >130Mpps.	
		Supports PoE++ power supply and perpetual PoE. The maximum power of the switch is 2200W.	

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	Working environment	Long-term operating temperature: -5°C to 50°C.	
		Relative humidity:5% to 95% (non-condensing).	
	Reliability	N+1 power supply backup	
	Integration	Must be able to be proven to integrate with Huawei aggregation switch and CCTV on the exiting network	

6. SIGN-OFF

Delivery and Provision of the Network equipment to Transnet Engineering Koedoespoort site.



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Date: 08/07/2025



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