


Supply and Delivery of Tools of trade and Communication Equipments for Telecommunication Department					
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PASSENGER RAIL AGENCY OF SOUTH AFRICA

Project specifications and scope of work for Supply and Delivery of Tools of trade and Communication Equipment's for Telecommunication Department in Gauteng Region.

SPECIFICATION AND SCOPE OF WORK

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PART A:

1 Introduction

- 1.1** This document entails the specification that covers PRASA requirements for the purchase of tools of trade and communication equipment for Telecoms department in Gauteng region.
- 1.2** The core responsibility of Telecoms Gauteng is to execute daily maintenance for approximately 600km of Optic fibre network, Telephone network, GSM-R network, Stations Public address systems, CCTV, Trunk Radios, Signal Transmission network, Electrical Tele-control network. etc.
- 1.3** For telecoms to execute maintenance on our systems we need tools of trade and communication equipment's.

2 Background Information

- 2.1** Telecoms systems is affected by theft and vandalism at the stations.
- 2.2** Shunting Communications at the train Depots is also affected due to faulty handsets.
- 2.3** Telecommunication recovery plans within the priority lines will require tools of trade and communication equipment's.
- 2.4** Telecoms technicians and technical workers are forced to share tools and testing equipment, this makes technicians work difficult to execute.
- 2.5** The procurement of our own equipment will help with rapid response and improve on recovery time.


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3 Objective

- 3.1 Telecoms Tools and communication equipments requires redundant system to revive communication at the Train Depot, stations and CTC for train authorizations and passenger information.


4 Special Requirements

- 4.1 This requirements document outlines the type of deliverables which will be indicated on the schedule of quantities.
- 4.2 All Tools and equipments must meet the technical requirements for the mentioned project in terms of its technology and quality of the products.
- 4.3 The requirements described in this document are aimed at delivering a solution that is reliable and efficient.
- 4.4 All tools and equipments are requested to be supplied within the agreed period as per contractual agreement.
- 4.5 The purchasing of these tools and equipment must be a **period of 3 month** which covers any obstacles of unavailability of stock from the suppliers.
- 4.6 The best practice on this project must be applied in all cause such as *proper and constant communications* during the project progress.
- 4.7 Noticed must be given prior to the delivery of such tools and equipments.
- 4.8 Testing of electronic equipment is required prior to delivery of the items.
- 4.9 Provide sample of all required items on BOQ.
- 4.10 Supply and delivery of the tools and equipment must be done in such a way, that the end-user requirements are fulfilled, as far as technically possible.


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5 Scope of work


- 5.1 Supply and delivery of optic fibre cleaver tool.
- 5.2 Supply and delivery of Analogue Phones with LCD display.
- 5.3 Supply and delivery of General-purpose GSM Indoor antenna.
- 5.4 Supply and delivery of Trunk Radio Mobile Antenna 440 – 470MHz.
- 5.5 Supply and delivery of GSM Modem for 3G/4G.
- 5.6 Supply and Delivery of UHF Portable Two-Way Radio Including Antenna, Battery and Charger.
- 5.7 Supply and Delivery of 3 Tier Toolbox
- 5.8 Supply and Delivery of Solder Sucker
- 5.9 Supply and Delivery of Soldering Iron
- 5.10 Supply and Delivery of Wire Striper
- 5.11 Supply and Delivery of Cable Knife
- 5.12 Supply and Delivery of Hole saw kit set 11 pieces.
- 5.13 Supply and Delivery of Flat file Smooth
- 5.14 Supply and Delivery of Round file
- 5.15 Supply and Delivery of Shifting spanner
- 5.16 Supply and Delivery of Shifting spanner 205mm
- 5.17 Supply and Delivery of Vice Grip Plier
- 5.18 Supply and Delivery of Tape Measure 5m x 19mm Blade with Rubber Casing
- 5.19 Supply and Delivery of Hacksaw
- 5.20 Supply and Delivery of Junior Hacksaw
- 5.21 Supply and Delivery of Spanner set 11 pieces.
- 5.22 Supply and Delivery of Socket Ratchet and spanner set 12 pieces.
- 5.23 Supply and Delivery of Crimper tool RG213.
- 5.24 Supply and Delivery of Pik and spade/shovel set.
- 5.25 Supply and Delivery of Compact Auto Digital Multimeter.
- 5.26 Supply and Delivery of Safety eyewear glasses black lens.

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- 5.27** Supply and Delivery of RJ45 Cable tracer kit.
- 5.28** Supply and Delivery of Safety harness full body.
- 5.29** Supply and Delivery of Sledge hammer (7Kg).
- 5.30** Supply and Delivery of Ballpein Hammer (200g).
- 5.31** Supply and Delivery of Ballpein Hammer (500g)
- 5.32** Supply and Delivery of Hexagon Key Wrench set 9 pieces. (1.5mm – 10mm)
- 5.33** Supply and Delivery of Star Screwdriver set 6 pieces.
- 5.34** Supply and Delivery of Flat Screwdriver set 6 pieces.
- 5.35** Supply and Delivery of Rechargeable Torch (large).
- 5.36** Supply and Delivery of Small long nose insulated.
- 5.37** Supply and Delivery of Big long nose insulated.
- 5.38** Supply and Delivery of Small side cutter insulated.
- 5.39** Supply and Delivery of Big side cutter insulated
- 5.40** Supply and Delivery of Center Punch
- 5.41** Supply and Delivery of Combination Plier
- 5.42** Supply and Delivery of Water pump plier insulated
- 5.43** Supply and Delivery of Paint Brush
- 5.44** Supply and Delivery of Torx Screwdriver Set 7 pieces.
- 5.45** Supply and Delivery of RJ9/RJ11/RJ12/RJ45 Crimping Tool with Cable Stripper.
- 5.46** Supply and Delivery of 30M 2Socket 15A Extension cord.
- 5.47** Supply and Delivery of Major Tech Gas Soldering iron kit.
- 5.48** Supply and Delivery of 25-piece Steel Drill bit set, 1mm – 13mm.
- 5.49** Supply and Delivery of Hacksaw Blades 300mm, 10 pieces.
- 5.50** Supply and Delivery of A Frame ladder 10 step fibre glass
- 5.51** Supply and Delivery of A Frame ladder 6 step fibre glass
- 5.52** Supply and Delivery of Bolt cutter plier 750mm
- 5.53** Supply and Delivery of Programming Devices
- 5.54** Supply and Delivery of Extension Fiberglass stepladder

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- 5.55** Supply and Delivery of Trestles Fiberglass stepladder
- 5.56** Supply and Delivery of Fibre Installation Tools Box
- 5.57** Supply and Delivery of Optic Time Domain Reflectometer (OTDR)
- 5.58** Supply and Delivery of Splicing Machine
- 5.59** Supply and Delivery of Pad Lock 40mm
- 5.60** Supply and Delivery of Electric Blower
- 5.61** Supply and Delivery of Rivet Gun with steel rivets
- 5.62** Supply and Delivery of Metal Cutting grinder blade 4.5 inch
- 5.63** Supply and Delivery of Tool Bag
- 5.64** Supply and Delivery of UTP RJ45combination cable tester
- 5.65** Supply and Delivery of and Registration Cable Drum Roller Trailer
- 5.66** Supply and Delivery of Roll on Drum Stand
- 5.67** Supply and Delivery of Cable Trolley Pulleys
- 5.68** Supply and Delivery of Micro fibre Floating Equipment
- 5.69** Supply, Delivery and registration of Diesel Compressor Trailer
- 5.70** Supply and Delivery of Transport network Interface cards.
- 5.71** Supply and Delivery of Cordless Glue Gun
- 5.72** Supply and Delivery of Cordless Angle Grinder
- 5.73** Supply and Delivery of Portable Metal/Cable Detector
- 5.74** Supply and Delivery of PVC Compression Glands

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6 TECHNICAL SPECIFICATION

6.1 OPTIC FIBRE CLEAVER


Specifications	
Material	Silica Glass
Cladding	Ø 125 um
Fiber count	Single to 12
Cleave Length	5 ~ 20mm (Ø 0.25) / 10 ~ 20mm (Ø 0.9)
Cleave Angle	0.5 degrees with single fibre
Off Cut Collector	Option
Single Fibre Adapter	Pre-fitted (AP-FC6M)
Dimensions (mm)	63(W) x 77(D) x 63(H)
Weight	380g
Field replaceable blade	Yes, Use FCP-20BL
Blade life *1	54,000 fibres (2,250 fibres x 24 Positions)

6.2 Analogue Phones with LCD Display

- 6.2.1 High quality ergonomic keypad
- 6.2.2 14 digits, 7-segment display with icons
- 6.2.3 Hands-free / Open listening
- 6.2.4 Numeric phonebook with 20 entries; from those, 10 speed-dial
- 6.2.5 Set, Speed Dial, Mute, Recall, Redial, Hands-free and (+/-) Volume keys

Sound quality:

- 6.2.6 High Sound Quality
- 6.2.7 Mute Key with melody
- 6.2.8 Adjustable volume of handset sound (3 levels)
- 6.2.9 Adjustable ringtone volume settings (4 levels)

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- 6.2.10 Hands-free/Open listening (high quality) activated by illuminated hands-free key with adjustable volume levels

Convenience – phoning essentials:

- 6.2.11 Phonebook and dialing
- 6.2.12 Numeric phonebook with 20 entries; from those, 10 speed-dial
- 6.2.13 CLIP indication for: incoming calls, missed calls list, redial list
- 6.2.14 Dial preparation (input of phone numbers before connecting) with correction possibility.
- 6.2.15 Notebook function can save different target numbers to phonebook
- 6.2.16 Convenient dial font for improved readability
- 6.2.17 Redialing of the 5 last different numbers
- 6.2.18 User-programmable speed-dial shortcuts using keys 0-9
- 6.2.19 Dialing: DTMF, Pulse, Flash (via Set codes)
- 6.2.20 External prefixes programmable
- 6.2.21 Call blocking (3 prefix number groups)
- 6.2.22 Telephone lock with direct call (Baby call)

6.3 Indoor antenna for GSM Network Modem

- 6.3.1 Miniature GSM Helical Antenna
- 6.3.2 850/ 900/ 1800/ 1900/ 2100 MHz
- 6.3.3 Active gain: +3dBi
- 6.3.4 VSWR <2.5:1
- 6.3.5 Cable Length: 2.5m
- 6.3.6 Connector Type: RG174 Coax to SMA male

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- 6.3.7 Magnetic Mount.
- 6.3.8 Total Height 100mm.
- 6.3.9 50 OHM Impedance.
- 6.3.10 Operating Temperature -40 to +80 degrees.

6.4 GSM Modem Router

- 6.4.1 Able to connect via Wi-Fi and RJ45 connector
- 6.4.2 Supports wired and wireless network access
- 6.4.3 Supports up to 32 devices via Wi-Fi and 4 devices via Ethernet interface
- 6.4.4 Supports RJ11 connector for voice calls
- 6.4.5 One-touch connection and LED indicator display
- 6.4.6 Hassle free installation, just Plug-N-Play
- 6.4.7 Friendly user interface
- 6.4.8 SIM Lock released for usage with any 3G network worldwide
- 6.4.9 SMA-female External Antenna slot
- 6.4.10 Unlimited operation time

Product Specs:

- 6.4.11 Wi-Fi 802.11b/g/n
- 6.6.12 Built-in UMTS and WLAN high gain antenna
- 6.4.13 Data, Voice and SMS Service
- Transfer rate:
- Max Download 28.8Mbps / Max Upload 5.76Mbps
- Band:
- 3G: HSPA+/HSUPA/HSDPA/UMTS 2100/900 MHz

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2G: GSM/GPRS/EDGE 1900/1800/900/850 MHz

Dimensions:

180mmx120x15(LxWxH)


Weight:

Approximately 250g excluding power adapter

6.5 UHF PORTABLE TWO-WAY RADIO

- 6.5.1 ANALOG & DIGITAL
- 6.5.2 DMR Digital Air Interface
- 6.5.3 AMBE+2 Vocoder for Natural Sounding Digital Voice
- 6.5.4 Operates in DMR Digital Conventional and FM Analogue modes, even on the same channel. Autosenses Received Mode (Digital or Analogue)
- 6.5.5 Digital Conventional Mode (does not support Trunking mode)
- 6.5.6 Signalling modes include CTCSS/DCS, Fleet Sync, MDC-1200, DTMF & 2-Tone
- 6.5.7 Digital and Analogue Scramblers built in.
- 6.5.8 True 6.25 kHz channel spacing operation.
- 6.5.9 Includes Radio-To-Radio Mode (no repeater needed)
- 6.5.10 IP54/55 and MIL-STD 810C/D/E/F/G Certification

6.6 TRANSPORT NETWORK INTERFACE CARDS

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- 6.6.1 4p Gig Ethernet card – SFP
- 6.6.2 7p – Serial card
- 6.6.3 Cable set for connector 1-5 (open ended) for 7-serial port 1-3.
- 6.6.4 SFP 1310nm – EX 40Km Range.

6.7 3TIER TOOLBOXES

- 6.7.1 Toolbox 3 compartment.
- 6.7.2 Strong structure, smooth and easy opening and closing.
- 6.7.3 Maximum access to bottom tray.
- 6.7.4 Lockable, phosphate and powder coated to prevent corrosion.
- 6.7.5 Size: 460 x 248 x 173mm

6.8 SOLDER SUCKER


- 6.8.1 Aluminium solder sucker for the removal of surplus molten solder during desoldering and soldering operations.
- 6.8.2 The surplus molten solder is sucked into the barrel when the plunger is pressed.

6.9 SOLDERING IRON

- 6.9.1 Basic soldering iron designed for laboratory and household use.
- 6.9.2 Power rating 220V 30W.

6.10 WIRE STRIPPER (0.75mm² - 6mm²)

- 6.10.1 Multifunction wire stripper and crimp tool.
- 6.10.2 Kind of wire stripping wire: Round.
- 6.10.3 Wire cross section: 0.75...6mm²
- 6.10.4 Tool material: Hardened steel.
- 6.10.5 Length: 250mm.

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- 6.10.6 marked with symbols defining the function of each die and jaw
- 6.10.7 plastic pads on handles facilitate operation
- 6.10.8 Gross weight: 0.26 kg

6.11 CABLE KNIFE


- 6.11.1 Fixed blade Utility Knife
- 6.11.2 Interlock patented blade locking system for greater safety during cutting
- 6.11.3 Metal knife lacquered and grooved for improved holding
- 6.11.4 Supplied with 1 blade
- 6.11.5 Length: 136mm

6.12 HOLE SAW KIT SET 11PCS

- 6.12.1 High quality hole saw kit for drilling round holes easily and quickly.
- 6.12.2 Sharp and durable teeth of hole saw ensure a powerful and high, efficient action.
- 6.12.3 Hole saws in various size to meet different needs.
- 6.12.4 Come with arbors and a little wrench.
- 6.12.5 Can be widely used for cutting wood, thin metal plate, etc.
- 6.12.6 Specification: Diameter 19mm / 22mm / 29mm / 32mm / 38mm / 44mm / 51mm / 64mm
- 6.12.7 **DIMENSIONS:** 6.4 cm x 6.4 cm x 2.8 cm
- 6.12.8 **WEIGHT:** 320 g.
- 6.12.9 **PACKING LIST:** 8 * Hole Saws (19mm / 22mm / 29mm / 32mm / 38mm / 44mm / 51mm / 64mm).
- 6.12.10 2 * Rods
- 6.12.11 1 * Wrench

6.13 FLAT FILE SMOOTH

- 6.13.1 Shape: Edges tapered towards the point

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6.13.2 Surfaces double cut.

6.13.3 200 mm Smooth Sleeves.

6.14 ROUND FILE

6.14.1 Type: Round

6.14.2 Length: 200mm

6.14.3 Bastard - coarse,

6.14.4 2nd cut - medium, smooth to fine Complete with handle.

6.15 SHIFTING SPANNER

6.15.1 Jaw capacity 150mm

6.15.2 Heavy duty

6.15.3 Drop forged steel

6.15.4 Black handle finish

6.16 VICE GRIP PLIER (250mm)

6.16.1 Grip size (250mm)

6.16.2 LENGTH: 240mm

6.16.3 WIDTH: 70mm

6.16.4 HEIGHT: 20mm

6.16.5 CLAMPING WIDTH: 50mm

6.16.6 MATERIAL: Chrome vanadium steel


6.16.7 INSULATED: No

6.16.8 NOSE: Round

6.17 TAPE MEASURE 5m x 19mm BLADE WITH RUBBER CASING

6.17.1 Providing accurate measurements with the easy-to-read markings.

6.17.2 Durable plastic casing with rubberized covering.

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6.17.3 Convenient Sliding Thumb lock-on button ensures measuring blade is fixed at desired measurement.

6.17.4 Tape Measure 5mX19mm Rubber Case.

6.18 HACKSAW

6.18.1 Grip Hacksaw size: 300mm

6.19 HACKSAW BLADES 300mm, 10PCS.

6.19.1 Length: 300mm.

6.19.2 Width: 12mm.

6.19.3 Height: 1mm.

6.19.4 Teeth per inch: 18

6.19.5 Material type: Bi – Metal.

6.19.6 10-piece set.

6.20 SPANNER SET 11PCS

6.20.1 Dimensions: 21.5cm x 30.5cm x 4cm.

6.20.2 Drop forged and hardened with metal rack.

6.20.3 Spanner sizes 8,9,10,11,12,13,14,15,17,19,21mm.

6.21 SOCKET RATCHET AND SPANNER SET 17PCS

6.21.1 Handbag Tools, Combination

6.21.2 Number of Pieces: 17pcs


6.21.3 Size: 25.6*7.1*1.5cm

6.21.4 1/4" Socket Wrench

6.21.5 Material: chrome-vanadium steel

6.21.6 color: silver

6.21.7 Ratchet spanners Length: 155mm

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- 6.21.8 Socket spanner
sizes: 4mm,5mm,6mm,7mm,8mm,9mm,10mm,11mm,12mm,13mm,14mm,15mm,16mm,17mm,18mm.
- 6.21.9 Quantity: 17pcs

6.22 CRIMPER TOOL RG213


- 6.22.1 Suitable for N-type connectors.
- 6.22.2 Application: Crimp for RG8 RG11 RG213 LMR400 RG316 RG174 cable.
- 6.22.3 3 Crimp Sizes in Die: (2.54mm),(3.25mm), and (10.90mm)
- 6.22.4 Protection: Insulated.

6.23 SPADE AND PIK SET

- 6.23.1 Shovel Round Nose and 6 shovels (digging spade)
- 6.23.2 Blade width 190MM handle length 600MM
- 6.23.3 12 digging pik with 600MM plastic handle

6.24 COMPACT AUTO DIGITAL MULTIMETER

- 6.24.1 Data Hold
- 6.24.2 Duty Cycle
- 6.24.3 6000 Count LCD
- 6.24.4 Min / Max
- 6.24.5 Auto, Range with manual override
- 6.24.6 1000V AC/DC
- 6.24.7 10A AC/DC
- 6.24.8 Resistance: 60MΩ
- 6.24.9 Temperature: 760C
- 6.24.10 Capacitance: 4000F
- 6.24.11 Frequency: 10MHz

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6.25 TONER AND PROBE KIT

- 6.25.1 Kit includes the 77HP high power tone generator.
- 6.25.2 200EP inductive amplifier
- 6.25.3 Rugged, woven polyester carrying case.

6.26 Safety harness full body

- 6.26.1 Curvilinear comfort system,
- 6.26.2 Secure-Fit buckles, and Sorbtek fabric on the shoulder and sub-pelvic pads.
- 6.26.3 Tower Harness model with integral body belt and removable saddle.
- 6.26.4 Resists water, oil, grease, and dirt.
- 6.26.5 Uses Visco-Elastic shoulder padding for comfort.
- 6.26.6 Designed with downward adjusting torso straps to ease fitting.

6.27 BALLPEIN HAMMER (small)


- 6.27.1 Weight 200g.
- 6.27.2 Fiberglass handle.

6.28 BALLPEIN HAMMER (big)

- 6.28.1 Weight 500g.
- 6.28.2 fiberglass handle.

6.29 HEXAGON KEY WRENCH SET 9PCS (1.5mm – 10mm)

- 6.29.1 Features: • L-style hex-keys organized in convenient.
- 6.29.2 Each set should contain a unique locking feature and marked slots for each key.
- 6.29.3 Ball-end should work on angles up to 30°
- 6.29.4 Sizes: 1.5mm, 2mm, 2.5mm, 3mm, 4mm, 5mm, 6mm, 8mm, 10mm.

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6.30 TORX SCREWDRIVER SET 7PCS

6.30.1 Chrome Vanadium Steel

6.30.2 Sizes: T10X3", T15X3", T20X4", T25X4", T27X4", T30X4", T40X4"

6.31 RJ9/RJ11/RJ12/RJ45 CRIMPING TOOL WITH CABLE STRIPPER

6.31.1 Terminates 4-wire RJ9, RJ11, 6-wire RJ12 and 8-wire RJ45 modular plugs.

6.31.2 Strips flat modular and round network cable, such as Cat5e and Cat6.

6.31.3 Single blade cut cable .

6.31.4 Easy-grip handle.

6.32 MAJOR TECH GAS SOLDERING IRON KIT.

6.32.1 Temperature control is achieved by increasing and decreasing the gas flow.

6.32.2 One filling lasts approx. 2 hours

6.32.3 Gas capacity 28ml

6.32.4 Temperature range soldering: 350 to 500°C. hot air: approx. 650°C

6.32.5 Compares with 20 to 80-Watt electric iron.


6.32.6 Aluminum body for ruggedness and protective cap with pocket cap.

6.32.7 Safety locks ensures that the tool cannot be accidentally ignited.

6.32.8 Weight: 100g

6.33 25-PIECE DRILL BIT SET, 1mm – 13mm.

6.33.1 Suitable for use on alloyed and non-alloyed steel, non-ferrous metals, cast iron and hard plastics.

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- 6.33.2 Spiral flute with oxide coating for rapid chip removal and 118° split point for easier drill starting.
- 6.33.3 Secure drill stand marked with bit sizes for quick selection of the right drill.
- 6.33.4 Easy to spot missing drill bits.
- 6.33.5 Sturdy plastic carry and storage case with hanging hook.
- 6.33.6 Sliding latch secures lid in place during transport.
- 6.33.7 Size ranges: 1mm – 13mm.
- 6.33.8 Number of pieces: 25

6.34 10 A FRAME STEP FIBRE LADDERS


- 6.34.1 Domestic & Industrial Duty Rated.
- 6.34.2 135kg Load Rating.
- 6.34.3 Full Fibre Construction
- 6.34.4 Moulded Plastic Top with Parts Tray And Tool Holder
- 6.34.5 Wide Non-Slip Fibre Treads Solid Riveted Treads
- 6.34.6 Non-Slip Rubber Feet.

6.35 6 A FRAME STEP FIBRE LADDERS

- 6.35.1 Domestic & Industrial Duty Rated.
- 6.35.2 135kg Load Rating.
- 6.35.3 Full Fibre Construction
- 6.35.4 Moulded Plastic Top with Parts Tray and Tool Holder
- 6.35.5 Wide Non-Slip Fibre Treads Solid Riveted Treads
- 6.35.6 Non-Slip Rubber Feet.

6.36 STAR SCREWDRIVERS SET 6PCS

- 6.36.1 Standard Screwdriver
- 6.36.2 Star Drive

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6.36.3 400mm drive size

6.36.4 Magnetic head

6.37 FLAT SCREWDRIVER SET 6PCS

6.37.1 Standard Screwdriver

6.37.2 Flat Drive

6.37.3 400mm Drive size

6.37.4 Magnetic head

6.38 RECHARGEABLE TORCH (large).

6.38.1 Light weight

6.38.2 Portable torch

6.38.3 3W LED

6.38.4 160 lumens bright

6.38.5 Battery capacity 4500mAh

6.38.6 Battery type; Rechargeable

6.39 TOOL BAG

6.39.1 Heavy duty

6.39.2 Tool storage

6.39.3 Dimension 54*34*5cm


6.39.4 Color Blue/Black

6.39.5 Material cotton

6.39.6 Weight 1kg

6.40 POP RIVET GUN

6.40.1 Rivet diameter capacity 1/8" Alum, 3/32" Steel.

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- 6.40.2 One-man operation.
- 6.40.3 Thumb trigger throttle - controls plunger speed for easy rivet setting.
- 6.40.4 Squeeze action - permits easy control, exceptional accuracy and uniformity.
- 6.40.5 Quiet operation.
- 6.40.6 Tool steel set holder.
- 6.40.7 Include 3/32, 7/32, 5/32 sizes, 50 each with each gun

6.41 SMALL LONG NOSE

- 6.41.1 100MM size
- 6.41.2 Insulated

6.42 BIG LONG NOSE

- 6.42.1 200MM size
- 6.42.2 Insulated

6.43 SMALL SIDE CUTTER


- 6.43.1 100MM size
- 6.43.2 Insulated

6.44 BIG SIDE CUTTER

- 6.44.1 200MM size
- 6.44.2 Insulated

6.45 CENTER PUNCH

- 6.45.1 Force center punch set # piece
- 6.45.2 6mm to 12mm

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6.46 COMBINATION PLIER

- 6.46.1 200MM size
- 6.46.2 High leverage combination pliers
- 6.46.3 Chrome vanadium steel
- 6.46.4 Drop forged & heat treated
- 6.46.5 Induction hardened cutting edges
- 6.46.6 Serrated gripping surfaces
- 6.46.7 Insulated

6.47 WATER PUMP PLIER


- 6.47.1 300MM size
- 6.47.2 Heat treated chrome vanadium steel
- 6.47.3 Hardened teeth approx. HRC55-60 (high frequency)
- 6.47.4 Multiple positions for size adjustment by pressing the button
- 6.47.5 Longer size of mouth for locking on bigger workpieces

6.48 SAFETY GOOGLE

- 6.48.1 Type : Sun soft component directly bonded with the lens
- 6.48.2 Lens properties: Anti-fog interior and scratch resistant
- 6.48.3 Lens tinting : Grey 23%
- 6.48.4 Lens Material : Polycarbonate
- 6.48.5 Standards : EN 166, EN 172
- 6.48.6 UV Protection : UV 400
- 6.48.7 Frame : Black

6.49 ELECTRICAL BLOWER

- 6.49.1 Lock on switch
- 6.49.2 3m cable.
- 6.49.3 Mains voltage 220

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6.49.4 Power input 400W

6.49.5 Max air displacement 3.0m³/min

6.50 OPTIC FIBRE SPLICING MACHINE (x4)

6.50.1 Profile types: single mode and multi-mode.

6.50.2 Cladding diameter: 80 - 150um.

6.50.3 Coating diameter: 100 – 1000um.

6.50.4 Slice time: 5 sec.

6.50.5 Heating time: 9 sec.

6.50.6 Proof test: 1.96 - 2.09N

6.50.7 Splice and heating programs.

6.50.8 Automatic arc calibration.

6.50.9 AC input supply: AC 100 – 240V, 50/60Hz.

6.50.10 DC input supply: DC 10 – 15V.

6.50.11 Battery Pack: Li-ion 10.8V, 6,400mAh

6.50.12 DC output: DC – 12V.

6.50.13 Operating Temperature: -10°C - +50°C.


6.50.14 Size: 128(W) x 154(D) x 130 (H)

6.51 OPTICAL TIME DOMAIN REFLECTOMETER – OTDR

6.51.1 Easy to use and robust for field usage

6.51.2 Modular construction for future module addition/replacement in order to be able to perform other measurements apart from OTDR

6.51.3 Level meter, CW LASER source and Visual Fault Locator (VFL) shall be incorporated

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6.51.4 SINGLE MODE (SM) OTDR

- Wavelength 1310 \pm 20 / 1550 \pm 20 / 1625 \pm 20 nm
- Dynamic range 41/40/40 dB
- Pulse width 5 ns to 20 μ s
- Linearity \pm 0,03 dB/dB
- Sampling resolution from 4cm
- Loss resolution 0,001 dB
- Loss threshold 0,01 dB
- Sampling points up to 256.000
- Distance 1,25 to 320 km
- Distance accuracy (m) \pm (0,75+0,001% \times distance+sampling resolution)
- Event dead zone 0,8 m
- Attenuation dead zone 4 m.

6.51.5 LEVEL METER


- Calibrated wavelengths 1310 / 1490 / 1550 / 1625 nm
- Power level +5 to -55 dBm
- Accuracy \pm 5 %

6.51.6 CW LASER SOURCE

- Calibrated wavelengths 1310 / 1550 / 1625 nm
- Output power -4,5 dBm

6.51.7 VISUAL FAULT LOCATOR (VFL)

- Wavelength ~ 635 nm
- Output power 1 mW

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6.51.8 **GENERAL CHARACTERISTICS**

- SCREEN
- TFT touchscreen at least 6,5 in
- Resolution 640 x 480
- Visibility under direct sunlight

6.51.9 **POWER SUPPLY**

- Power supply – charger input 100 – 240 VAC 50 – 60 HZ
- Rechargeable Li-ion battery with at least 8 hours endurance.

6.51.10 **INTERCONNECTIONS**

- 2 USB ports and RJ-45 ethernet port.

6.51.11 **MEMORY**


- Able to store at least 1000 measurement results.

6.51.12 **ENVIRONMENTAL**

- Operation temperature 0 0C to +40 0C
- Humidity up to 95% non-condensing.


6.51.13 **WEIGHT**

- Up to 3,5 Kg

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6.52 PROGRAMMING DEVICES

- 6.52.1 Product Description HP Elite Book - 14" - Core i7 6500U - 8 GB RAM - 500 GB SSHD
- 6.52.2 Product Type: Laptop
- 6.52.3 Operating System Win 11 Pro 64-bit
- 6.52.4 Processor Intel Core i7 (6th Gen) 5500U / 2.5 GHz (3 GHz) / 4 MB Cache
- 6.52.5 Memory 8 GB DDR3L
- 6.52.6 Storage 500 GB SSHD
- 6.52.7 Display (14") diagonal FHD UWA anti-glare slim LED-backlit touch screen (1920 x 1080)
- 6.52.8 Graphics Intel® HD Graphics 5500
- 6.52.9 Networking Bluetooth 4.0, 802.11ac, Gigabit Ethernet
- 6.52.10 Wireless Broadband (WWAN) HP It4120 Qualcomm X5 LTE Mobile Broadband
- 6.52.11 Battery 3-cell - long life
- 6.52.12 Dockable Yes
- 6.52.13 Security Trusted Platform Module (TPM 1.2) Security Chip, fingerprint reader, Smartcard reader.
- 6.52.14 Environmental Standards ENERGY STAR Qualified
- 6.52.15 Warranty: 3-year Extended warranty
- 6.52.16 2 X USB 3.0, 1X VGA, 1X DisplayPort, 1 X RJ-45, 1 X Headphone/Microphone.
- 6.52.17 HDMI port
- 6.52.18 Gigabit Ethernet
- 6.52.19 Dimensions (W x D x H) 33.9 x 23.7 x 2.26 cm, Weight 1.71 kg.
- 6.52.20 The following accessories shall be delivered with each of the devices 15.6-Inch Laptop Sleeve Case Bag (Black) and Security Cable Lock

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6.53 EXTENSION FIBERGLASS STEPLADDER


- 6.53.1 Spike feet
- 6.53.2 Channel size 90mm
- 6.53.3 Closed height 7M
- 6.53.4 Extended length 13M
- 6.53.5 Approximate weight 55kg
- 6.53.6 Nylon or alluminium locks
- 6.53.7 Side rope
- 6.53.8 Cable roller pole rung
- 6.53.9 V-roller pole rung

6.54 TRESTLES EXTENSION FIBERGLASS LADDER

- 6.54.1 Swivel feet
- 6.54.2 Channel size 102mm
- 6.54.3 Closed height 6M
- 6.54.4 Extended length 10.5M
- 6.54.5 Approximate weight 55kg
- 6.54.6 Nylon or alluminium locks
- 6.54.7 Side rope

6.55 Cable Drum Roller Trailer

- 6.55.1 Lighting: Stop. Tail. Direction indicators and connector
- 6.55.2 Suspension: Swinging arm with aeon suspension.
- 6.55.3 Braking: Drum brakes to EC specification with Hand brake.
- 6.55.4 Number plate light
- 6.55.5 Jockey wheel parking jack

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6.55.6 To comply with road ordinance (reflectors plus chevron tape, the contractor shall be responsible for the registration and first licensing of the equipment.

6.55.7 Lifting : Hand operated hydraulic pump with individual valves for each ram.

6.55.8 Towing eye : 50mm diameter

6.55.9 Drum Weight : 1300 KG

6.55.10 Drum Width Max: 1100mm

6.55.11 Drum Diameter: 2000mm

6.55.12 Tyres : 195 R14 08 (spare wheel to be included)

6.55.13 Weight: Less than 450KG

6.55.14 Spindle diameter :64mm

6.56 ROLL ON DRUM STAND

6.56.1 Max Drum Weight 1500Kg

6.56.2 Maximum Diameter 1500mm

6.56.3 Minimum Diameter 300mm

6.56.4 Drum Width Adjustable

6.56.5 Height 100mm

6.56.6 Width 200mm

6.57 CABLE TROLLEY PULLEY

6.57.1 Single sheave pulley blocks 65-150mm

6.57.2 Maximum safe load 250KG


6.57.3 Fiber Size 10-26mm

6.58 FIBRE INSTALLATION TOOLBOX

6.58.1 1 x FTTH toolbox

6.58.2 1 x High precision cutting knife


6.58.3 1 x High precision optical power meter

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- 6.58.4 1 x scissors
- 6.58.5 1 x leather line stripping device
- 6.58.6 1 x Double mouth Miller clamp
- 6.58.7 1 x Oblique pliers
- 6.58.8 1 x Vise
- 6.58.9 1 x Tip pliers
- 6.58.10 1 x 250ml Alcohol bottle
- 6.58.11 1 x Fixed length stripping device
- 6.58.12 1 x large adjustment tool
- 6.58.13 1 x Trumpet tool
- 6.58.14 1 x SC power head
- 6.58.15 1 x FC optical head
- 6.58.16 1 x Fiber Cleaning pen
- 6.58.17 1 x buffer stripper
- 6.58.18 1 x Fiber inspection Microscope
- 6.58.19 1 x Fiber Optic Stripper CFS-2
- 6.58.20 1 x Rotary cutter 3-16mm
- 6.58.21 1 x PVC/HDPE pipe cutter 42mm
- 6.58.22 1 X Fault locator 10mW

6.59 MICRO FIBRE BLOWING/FLOATING EQUIPMENT

- 6.59.1 Cable Diameter: 2.5 to 11mm
- 6.59.2 Tube Size (Outside Diameter): 5 to 18mm
- 6.59.3 Cable Speed (Adjustable): (0-100m/min)
- 6.59.4 Air Pressure: 10-15 Bar (145-215 psi)
- 6.59.5 Operating Power: 220 Volt AC
- 6.59.6 Blowing distance < 1km
- 6.59.7 Width: 300mm
- 6.59.8 Length: 460mm
- 6.59.9 Height: 270mm

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- 6.59.10 Net Weight less than: 25kg
- 6.59.11 Automatic Cable centralizing
- 6.59.12 Synchronous high grip profiled compliant drive belts
- 6.59.13 Forward and reverse
- 6.59.14 Variable torque and speed controls
- 6.59.15 Low noise levels
- 6.59.16 Travel case
- 6.59.17 Tool Kit

6.60 DIESEL COMPRESSOR TRAILER

- 6.60.1 Lighting: Stop. Tail. Direction indicators and connector
- 6.60.2 Suspension: Swinging arm with aeon suspension.
- 6.60.3 Braking: Drum brakes to EC specification with Hand brake.
- 6.60.4 Number plate light
- 6.60.5 Tubeless tyres (Spare wheel to be included)
- 6.60.6 Compressor to be fitted on trailer with 8 rubber mountings
- 6.60.7 Jockey wheel parking jack
- 6.60.8 To comply with road ordinance (reflectors plus chevron tape, the contractor shall be responsible for the registration and first licensing of the equipment.
- 6.60.9 The trailer shall have a lockable compartment for the storage of tools and the power cables.
- 6.60.10 Normal working pressure :6-12 Bars
- 6.60.11 Lubricant style: Lubricated
- 6.60.12 Power source : Diesel Engine
- 6.60.13 Fuel capacity : 60-90L
- 6.60.14 Engine Coolant Capacity: 10-15L

6.61 Portable Metal/Cable Detector

- 6.61.1 Cordless Power

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- 6.61.2 Range 5 to 50 meter
- 6.61.3 Weight approximately 300 grams
- 6.61.4 Accuracy 95%
- 6.61.5 Rechargeable battery with charger

6.62 Cordless Angle Grinder


- 6.62.1 Operating Voltage 18V
- 6.62.2 2x Batteries 18V 40Ah
- 6.62.3 Battery Charger
- 6.62.4 Heavy duty motor 700W
- 6.62.5 Safety slide switch
- 6.62.6 Adjustable wheel guard
- 6.62.7 On-load speed 11.00 Rpm

6.63 Shifting Spanner 205mm

- 6.63.1 Carbon steel material.
- 6.63.2 Jaw capacity 205mm
- 6.63.3 1 Meter Height

6.64 Cordless Glue Gun

- 6.64.1 Electronically Controlled Heating
- 6.64.2 Mechanical feed system
- 6.64.3 1x Minimum battery voltage 4.6V
- 6.64.4 Minimum battery capacity 1.5Ah

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6.64.5 Glue stick diameter 7mm

6.64.6 Heat-up time of 15 seconds

6.64.7 No dripping

6.64.8 Battery Charger

6.64.9 12X Compatible glue sticks

6.64.10 Wire stand

6.64.11 Gluing temp of 170 degrees

6.65 RJ 45 Cable Tracer

6.65.1 **Transmitter**

6.65.2 Tone frequency 200Hz

6.65.3 Max distance of transmission 2KM

6.65.4 Max working current 30mA

6.65.5 Compatible for RJ45

6.65.6 Max signal voltage 8v

6.65.7 LED light display

6.65.8 **Receiver**


6.65.9 Frequency 200kHz

6.65.10 Max working current 80mA

6.66 PVC Compression Cable Glands

6.66.1 Maximum Cable Diameter- 14mm

6.66.2 Minimum cable Diameter- 10mm

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6.66.3 Locknut

6.66.4 Inner thread diameter- 15mm

6.66.5 Outer thread diameter- 20mm

6.66.6 10 per pack

6.66.7 Colour Black

6.67 Sledgehammer 7kg


6.67.1 Height 1metre

6.67.2 Double face carbon steel

6.67.3 Handle material fiberglass


6.68 TRUNK RADIO MOBILE ANTENNAS 440 – 470MHz.

Electrical Data	
Frequency	440 – 470 MHz
Nominal Gain	4 dBq (rel. $\lambda/4$ -wave)
Bandwidth	10 MHz
VSWR	< 1,5 : 1
Radiation Pattern	Omni-directional
Polarisation	Vertical
Rated Power	50 W
Impedance	50 Ω
Termination	4 m RG-58, no connector

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Mechanical Data	
Max. wind velocity	220 km/h
Whip	17 – 7PH SS
Coil	MOULDED
Mounting Hole Size	19 mm
Adjustment °	180°
Colour	Silver and Black
Dimensions	750 mm
Shipping Dimensions	0.4 kg / 75 x 11 x 5 cm

Including: Mobile Mounting Magnetic Base, 4m RG-58 cable and RG-58 N-type Connectors per Antenna.


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7. Bill of Quantity


Item no:	Description	Estimated Qty	Unit	Estimated Unit price	Estimated Total Amount
1.	Supply and Delivery of fiber Cleavers	8	Each	R	R
2.	Supply and Delivery of Analogue Phones with LCD Display.	20	Each	R	R
3.	Supply and Delivery of Indoor Antenna for GSM Network Modem	20	Each	R	R
4.	Supply and Delivery of GSM Modem and Power Supply.	20	Each	R	R
5.	Supply and Delivery of UHF Portable Two-Way Radio including Antenna, Battery and Charger.	40	Each	R	R
6.	Supply and Delivery of 4pGIG Ethernet Card-SFP.	2	Each	R	R
7.	Supply and Delivery of 7p-Serial Card	2	Each	R	R
8.	Supply and Delivery of Cable set for connector 1-5 (open ended) for 7-serial port 1-3.	2	Each	R	R
9.	Supply and Delivery of SFP 1310nm – EX 40Km Range.	8	Each	R	R
10.	Supply and Delivery of Trunk Radio Mobile Antenna including magnet base and RG-58cable and N-Type connector	12	Each	R	R
11.	Supply and Delivery of 3 Tier Toolbox	20	Each	R	R
12.	Supply and Delivery of Solder Sucker	20	Each	R	R
13.	Supply and Delivery of Soldering Iron	20	Each	R	R
14.	Supply and Delivery of Wire Striper	20	Each	R	R
15.	Supply and Delivery of Cable Knife	20	Each	R	R
16.	Supply and Delivery of Hole saw kit set 11pieces	20	Each	R	R
17.	Supply and Delivery of Flat file Smooth	20	Each	R	R
18.	Supply and Delivery of Round file	20	Each	R	R
19.	Supply and Delivery of Shifting spanner 150mm	20	Each	R	R
20.	Supply and Delivery of Vice Grip Plier 250mm	20	Each	R	R

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21	Supply and Delivery of Tape Measure 5m x 19mm Blade with Rubber Casing	20	Each	R	R
22	Supply and Delivery of Hacksaw	20	Each	R	R
23	Supply and Delivery of Junior Hacksaw	20	Each	R	R
24	Supply and Delivery of Spanner set 11pieces	20	Each	R	R
25	Supply and Delivery of Socket Ratchet and spanner set 12 pieces	20	Each	R	R
26	Supply and Delivery of Crimper tool RG213	20	Each	R	R
27	Supply and Delivery of Pik and spade/shovel set	12	Each	R	R
28	Supply and Delivery of Compact Auto Digital Multimeter	20	Each	R	R
29	Supply and Delivery of Safety eyewear glasses black lens	25	Each	R	R
30	Supply and Delivery of Toner and Probe kit.	17	Each	R	R
31	Supply and Delivery of Safety harness full body	20	Each	R	R
32	Supply and Delivery of Ballpein Hammer (200g)	20	Each	R	R
33	Supply and Delivery of Ballpein Hammer (500g)	20	Each	R	R
34	Supply and Delivery of Hexagon Key Wrench set 9pcs (1.5mm – 10mm)	20	Each	R	R
35	Supply and Delivery of Star Screwdriver set 6 pieces	20	Each	R	R
36	Supply and Delivery of Flat Screwdriver set 6 pieces	20	Each	R	R
37	Rechargeable Torch (large).	20	Each	R	R
38	Small long nose insulated	20	Each	R	R
39	Big long nose insulated	20	Each	R	R
40	Small side cutter insulated	20	Each	R	R
41	Big side cutter insulated	20	Each	R	R
42	Center Punch	20	Each	R	R
43	Combination Plier	20	Each	R	R
44	Water pump plier insulated	20	Each	R	R
45	Paint Brush	20	Each	R	R
46	Torx Screwdriver Set 7 piece	20	Each	R	R
47	RJ9/RJ11/RJ12/RJ45 Crimping Tool with Cable Stripper	20	Each	R	R
48	30M 2Socket 15A Extension Reel	6	Each	R	R
49	Major Tech Gas Soldering iron kit.	20	Each	R	R
50	25-piece Steel Drill bit set, 1mm – 13mm.	20	Each	R	R
51	Hacksaw Blades 300mm, 10 pieces.	20	Each	R	R

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52	Supply and Delivery of A Frame ladder 10 step fiber glass	4	Each	R	R
53	Supply and Delivery of A Frame ladder 6 step fiber glass	4	Each	R	R
54	Supply and Delivery of Bolt cutter plier 750mm	3	Each	R	R
55	Supply and Delivery of Programing Devices	4	Each	R	R
56	Supply and Delivery of Extension Fiberglass stepladder	4	Each	R	R
57	Supply and Delivery of Trestles Fiberglass stepladder	4	Each	R	R
58	Supply and Delivery of Fiber Installation Tools Box	10	Each	R	R
59	Supply and Delivery of Optic Time Domain Reflectometer (OTDR)	3	Each	R	R
60	Supply and Delivery of Splicing Machine	2	Each	R	R
61	Supply and Delivery of Pad Lock 40mm	25	Each	R	R
62	Supply and Delivery of Electric Blower	6	Each	R	R
63	Supply and Delivery of Rivet Gun with steel rivets	20	Each	R	R
64	Supply and Delivery of Metal Cutting grinder blade 4.5 inch	20	Each	R	R
65	Supply and Delivery of Tool Bag	20	Each	R	R
67	Supply and Delivery of UTP RJ45combination cable tester	20	Each	R	R
68	Supply and Delivery of and Registration Cable Drum Roller Trailer	2	Each	R	R
69	Supply and Delivery of Roll on Drum Stand	4	Each	R	R
70	Supply and Delivery of Cable Trolley Pulleys	20	Each	R	R
71	Supply and Delivery of Micro fibre Floating Equipment	2	Each	R	R
72	Supply, Delivery and registration of Diesel Compressor Trailer	2	Each	R	R
73	Supply, Delivery of Shifting Spanner 205mm	4	Each	R	R
74	Supply, Delivery of 7kg Sledgehammer	2	Each	R	R
75	Supply Delivery of PVC Compression Cable Glands per pack	20	Each	R	R

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76	Supply Delivery of RJ 45 Cable Tracer	6	Each	R	R
77	Supply Delivery of Cordless Glue Gun	9	Each	R	R
78	Supply Delivery of Portable Metal/Cable Detector	6	Each	R	R
79	Supply Delivery of Cordless Angle Grinder	6	Each	R	R
		Subtotal		R	R
		Total Amount		VAT 15% inclusive	R

9. Evaluation Criteria

The evaluation should be done in three stages as follows:


Stage 1: Compliance Requirements

e.g. Valid Tax Clearance certificate, Company registration documents, Bank rating, security screening


Stage 2: Technical / Functionality Requirements

NOTE: The Technical or Functionality criteria must be guided by the project scope of works and area of focus.

Functionality and Capabilities	Max Points	Points Scored	Minimum Required
Compliance to Technical specification <ul style="list-style-type: none"> 100% Compliance with technical specification = 40 points Non – compliance or non-Submission = 0 Points 	40		40

Supply and Delivery of Tools of trade and Communication Equipments for Telecommunication Department					
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NB!! Technical Specification compliance confirmation letter signed by duly authorized persons of the bidding entity. Company Previous Work <ul style="list-style-type: none"> Three (3) and above successful projects of delivering Telecoms material with appointment letter or PO and completion letter with contactable details submitted=30 points 1 to 3 successful projects of delivering Telecoms material with appointment letter or PO and completion letter with contactable details submitted with contactable details submitted=25 points None compliance or submission=0 points Capacity to deliver as per schedule <ul style="list-style-type: none"> Full consignment delivered within 30 days = 30 points Full consignment delivered within 60 days = 20 points Full consignment delivered after 60 days = 0 Non-submission = 0 Note: Penalties will be levied if committed delivery period is not met	30		25
	30		20
GRAND TOTAL	100		85*

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Stage 3: Pricing and BBEE

Pricing

A maximum of 80 points is allocated for price. The evaluation for price will be done based on the following formula:

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

P_s = Points scored for price of tender under consideration

P_t = Rand value of tender under consideration

P_{\min} = Rand value of lowest acceptable tender

BBEE Evaluation

The BBEE component of evaluation is weighted at 20% of the evaluation criteria. Bidders will be awarded the following points based on the level of their BBEE as per their BBEE Certificate issued by an agency approved by SANAS:

B-BBEE Contribution Level	80:20 Preference System
1	10
2	9
3	8
4	5
5	4
6	3
7	2
8	1
Non-compliant	0