	DESCRIPTION	COMPLY / DO NOT COMPLY
3.2.3.1.12	The Video Data and voice Transmission Equipment must provide for real-time video and data as well as voice transmission with minimum or no latency.	STATE:
3.2.3.1.13	The network design and components selection must support the goal of minimizing control loop latency for all PTZ camera installations. (The control loop latency is the delay between the instant in time of activating camera pan or tilt and the instant in time when the video image in the display reflects the corresponding movement of the camera.) This time must be below 200 milliseconds.	STATE
3.2.4	**Optic Fibre System Structure:**	
3.2.4.1	This specification covers the supply, delivery, installation, testing and commissioning of a complete aerial fibre cable reticulation network and Video and Data Transmission System. The fibre optic cable reticulation portion of this RFB includes for the supply and installation of 1310/1550nm metal free ADSS (All Dielectric Self Support) fibre optic, single-mode cable, suitably rated to be strung along poles or buried within cable sleeves, along the cable routes, to link the field installed cameras to the control room.	STATE:
3.2.4.2	The fibre optic infrastructure, complete from supply to commissioning, must be carried out by suitably qualified persons acceptable to the SAPS and conforming to appropriate professional standards.	STATE:
3.2.4.3	The optic fibre network must be designed with a reserve capacity of at least 20% fibres throughout the network. Each installed cable must allow for a minimum of 20% redundancy for future expansion with at least one fibre spare per link.	STATE:
3.2.4.4	The fibre optic cable reticulation must be mechanically protected by being fit for purpose.	STATE:
3.2.4.5	The Successful Bidder must ensure that the regulations of the local electricity authority are adhered to during the installation.	STATE:
3.2.4.6	Ensure that the entire installation does not interfere with any other services, cables, pipes, or infrastructure in the installation area. Physical clearance criteria must be adhered to in this regard.	STATE:
3.2.4.7	The Successful Bidder must have insurance cover in respect of all damages to any physical property, injury or death which may arise from contractual activities. In particular the *Successful Bidder* must have workman's compensation cover together with insurance against common law liability.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.2.4.8	No member of the installation team must climb any ladder or pole unless he is wearing and makes proper use of an approved harness.	STATE:
3.2.4.9	A survey of the line must be carried out before a site quotation is finalized and submitted to identify site difficulties such as trees that require trimming and to determine joint, Dead-End and Tangent positions, additional poles required, and to quantify all issues that may impact the quotation per site. The quotation per site must thus be firm.	STATE:
3.2.4.10	Workmanship quality must comply with professional standards such as stated in the section on technical standards in this document.	STATE:
3.2.4.11	The SAPS reserves the right to accept or reject any work based on the SAPS interpretation of applicable technical standards.	STATE:
3.2.5	**The installation work will take place in the following sequence:**	
3.2.5.1	A pre-installation OTDR test must be done in order to verify that the cable has not been damaged in transit and that it conforms to the specification. The results of this test must be recorded for future reference.	STATE:
3.2.5.2	Attachment points for the cable (single or double hooks) must be fitted with the use of Stainless steel strapping ("Band-It" or similar) All these attachments must be hot dipped galvanized and be fit for purpose.	STATE:
3.2.5.3	Dead ends must be fitted at the start and finish of a route, wherever there is a change in route direction and at not more than 500 meters apart on straight routes. Tangent supports must be used at all intermediate positions.	STATE:
3.2.5.4	The cable must be secured by a dead end at the start of the route and the cable paid out to enable it to be passed over the single or double hooks which will act as a temporary support.	STATE:
3.2.5.5	At the first dead end position the cable must be tensioned with the aid of a dynamometer to the correct tension (1200N). The dead end is then fitted and the tangent supports on the intermediate positions are fitted. This procedure is repeated for the rest of the route.	STATE:
3.2.5.6	The ADSS cable must be taken into buildings by the most suitable method taking into account the site conditions. These may include direct entry through cable entries in the wall at eaves height, underground through ducting or other appropriate method.	STATE:
3.2.5.7	Where it is necessary that the cable for the network or electricity should be routed underground or fixed to walls (this is normally where it is not possible or practical to cross an obstacle such as a rail line and power lines, , via an	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
	overhead route) the cable must be brought down the pole in galvanized steel conduit. All civil works such as trenching and the supply and installation of pipes and manholes/draw boxes must be done to current best practices as approved by each municipality or metro and to the approval of the SAPS.	
3.2.5.8	Galvanized steel conduit must be fixed to walls to protect cable where required.	STATE:
3.2.5.9	Complete final OTDR testing must be done after the installation in order to evaluate the fibre splices and to ensure that each through spliced fibre meets the splicing specification. Power through testing must also be done from one end.	STATE:
3.2.6	**Splicing and Testing:**	
3.2.6.1	Fusion splicing and optical time domain reflectometer (OTDR) testing and certification must be provided on all installed cables.	STATE:
3.2.6.2	Labelling and documentation for the entire system including printouts of the OTDR tests must be provided as a part of the contract hand-over procedure.	STATE:
3.2.6.3	Fibre Optic Termination Enclosures and Fibre Optic Splice Patch Panels, complete with Fibre Optic Management kits, must be sized to suit the number of cable cores. As a minimum, the Fibre Optic Termination Enclosures must be capable of taking up to 48 Termination and / or Fusion through Splices. All Termination Enclosures must be mounted within the camera equipment housing. Incoming fibre optic cables must be glanded into the Patch Panels or Enclosures using suitable compression glands. The Fibre Optic Patch Panels are to be 19" Rack mountable and should be complete with 19" Rack Mountable Brush and Blank Panels. All end terminations should be fusion Spliced to 1m ST Unjacketed 10/125 Pigtails and Single mode ST Mid-couplers are to be used. *Bidders* are to provide for Fibre Optic Patch leads as per their equipment requirements. Bidders are to warranty the quality of the Pigtails, Mid-couplers and Patch leads – manufacturers details are to be provided for these items.	STATE:
3.2.6.4	All termination boxes must be labelled internally and externally on the lid with the following:	
3.2.6.4.1	Label bearing the legend "FIBRE OPTIC CABLE – CAUTION".	STATE:
3.2.6.4.2	Label bearing the Termination Enclosure number which must be the same as the incoming cable number.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.2.6.4.3	All labels must be to the approval of the SAPS and must be securely and permanently fixed in position.	STATE:
3.2.6.4.4	All Termination Enclosures and Fibre Optic Patch Panels must be approved by the SAPS	STATE:
3.2.6.4.5	Dome joints. Only approved weather/waterproof dome joints are to be used where cable joints are required. Bidders are requested to provide manufacturers details for the dome joints. Through splicing in the Dome joints must be done at ground level, after which the joint must be fixed to the pole with stainless steel strapping to the approval of the SAPS. The slack cable must be neatly secured to the pole by means of a slack bracket or approved enclosure.	STATE:
3.2.6.4.6	Splicing, Testing, Certification and Labelling: All Splicing must compromise high quality fusion splices using core alignment method. Successful Bidders are requested to provide a list of Fusion Splice machines and OTDR Testers including Make, Model, Serial Numbers and Calibration Certificates.	STATE:
3.2.6.4.7	All terminated fibre cores within the network must be tested using an optical time-domain reflectometer (OTDR) and the test results must be scheduled and certified by the technician together with details of the test instrument make, model and number of calibration certificate.	STATE:
3.2.6.4.8	The Successful Bidder must base the installation on a co-ordinated and logical colour-coded labelling system for all optical paths so that each core adopts the same cable topography from the point of origin in the Control Room to each termination point in the field.	STATE:
3.2.7	**Testing of equipment:**	
3.2.7.1	**Purpose and scope of camera evaluation:**	
3.2.7.1.1	The SAPS requires cameras suitable for demanding environments and bidders need to satisfy the SAPS in a structured practical demonstration that the offered cameras and associated equipment is suitable for demanding applications.	STATE:
3.2.7.1.2	The SAPS is committed to procure the best of class equipment in order to ensure efficiency in these systems. Products will however not be rejected based on minor deficiencies identified. The purpose of practical evaluation is to identify deficiencies that would materially impact on the operational performance of the systems. Such deficiencies will be grounds for the SAPS to reject an offer or any part thereof.	STATE:

	DESCRIPTION	COMPLY / DO NOT COMPLY
3.2.7.1.3	Deficiencies impacting on operational performance of the system must be deficiencies that would be important in the view of a professional qualified person such as a scientist or engineer consulted by the SAPS for opinion in this regard. The SAPS reserves the right to accept guidance from any such expert from within the CCTV industry, broadcast industry, from universities, police scientific officers local and abroad and other sources of scientific and engineering information such as the CSIR etc.	STATE:
3.2.7.1.4	The SAPS needs to establish with reasonable certainty that products procured can viably be sustained over extended periods and thus require *Short Listed Bidders* to demonstrate procedures for disassembly, maintenance and repair of equipment. This specifically applies to mechanical devices such as PTZ mechanisms in independent PTZ heads or as part of dome cameras.	STATE:
3.2.8	**SAPS Test and evaluation methodology**	
3.2.8.1	The SAPS will use a combination of measured and operational simulation evaluation mechanisms, measuring some parameters with instruments and subjecting some parameters to the evaluation of a selected sample of observers to arrive at a conclusion. Operational simulation evaluation means evaluation based on the relative quality of images or other performance parameters relevant to system performance and that would impact on system efficiency as tested against the observation and opinion of a structured team of observers.	STATE:
3.2.8.2	The evaluation of the SAPS will be based on operational environment simulation, re-creating operational conditions and if deemed necessary placing cameras in real world operational environments to ensure realistic evaluation of equipment. The evaluation will include practical implementation issues such as the user friendliness of camera configuration procedures and associated items.	STATE:
3.2.8.3	The approach will be pragmatic and practical. Cameras will not be eliminated based on marginal measurements, but will be eliminated if substantial performance deficiencies or practical implementation obstacles are detected.	STATE:
3.2.8.4	The SAPS will schedule evaluation sessions as dictated by the practical circumstances at evaluation time, based on the numbers of cameras to be evaluated. The SAPS will schedule a session per camera category, with the possibility of clustering similar camera categories such as general purpose Static and PTZ as the cameras used are likely to be similar/identical.	STATE:
3.2.8.5	Note must be taken that SAPS work in robust environments and that the solution must be of such a nature that it can withstand it, e.g. the brackets	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
	and operating mechanisms of the satellite on top of a vehicle must be of such a nature that it will at least withstand the use of it on a gravel road.	
3.2.9	**Sample Of Cameras Offered:**	
3.2.9.1	Short Listed Bidder must have available a sample of each camera offered under this RFB to be delivered at a location for evaluation selected by the SAPS within the boundaries of the Gauteng province.	STATE:
3.2.9.2	The sample camera must be fully functional for evaluation purposes and must be provided by the Short-Listed Bidder complete as described below:	STATE:
3.2.9.3	The camera must be mounted on a portable photographic tripod that must be approximately 1.2 meter high.	STATE:
3.2.9.4	The camera must be fitted with a fully functional lens for use at ranges from at least 10 meter to 100 meter or more.	STATE:
3.2.9.5	Any required control system needed for camera configuration or camera use must be available, set up and ready to use with the camera.	STATE:
3.2.9.6	The sample must include a monitor that will exceed the camera performance and where performance deficiencies will not be ascribed by the Short-Listed Bidder as deficiencies of the monitor.	STATE:
3.2.9.7	Power supplies to power the camera, Short Listed Bidder monitor and associated equipment inclusive of the network equipment.	STATE:
3.2.9.8	The Short-Listed Bidder must provide all required interconnection cables necessary for the evaluation.	STATE:
3.2.9.9	The control electronics, possible required PTZ drives and related components must be neatly installed in equipment housing with all cables and wires required terminated in plugs and sockets. On site soldering delays will not be allowed.	STATE:
3.2.9.10	The efficiency of the Short-Listed Bidder to set up for demonstration and evaluation must be an evaluation of the capacity of the Short Listed Bidder to deliver on time and to specification.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3	**DETAILED TECHNICAL REQUIREMENTS**	
3.3.1	**Role and functions of Short Listed Bidder technical representatives**	
3.3.1.1	Each Short Listed Bidder must have presented a maximum of two technically qualified technicians to set up for evaluation.	STATE:
3.3.1.2	These technicians must set up the camera and associated equipment for evaluation.	STATE:
3.3.1.3	The technicians must demonstrate any required parameter as instructed by the evaluation team and must provide any required technical data needed for evaluation purposes.	STATE:
3.3.1.4	The technicians may in no way pass comment on the equipment of another Short Listed Bidder and may in no way attempt to discredit any other Short Listed Bidder.	STATE:
3.3.1.5	The technicians may be required to demonstrate maintenance and set-up procedures to confirm maintainability and support ability of the products on offer.	STATE:
3.3.1.6	Parameters to be evaluated: Parameters evaluated will in part be based on the parameters described in IEC 61146-part 1. Note that parameters are not measured to laboratory standards, but evaluation will systematically investigate performance guided by the IEC document as well as practical operational performance and implementation issues.	STATE:
3.3.1.7	The parameters to be evaluated and that the bidder will demonstrate when required will include but may not be limited to the following:	STATE:
a)	Luminance Sensitivity.	STATE:
b)	Luminance Resolution. (TV Line Resolution)	STATE:
c)	Luminance Signal to noise ratio	STATE:
d)	Luminance dynamic range.	STATE:
e)	Colour reproduction.	STATE:
f)	Linearity of luminance response	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
g)	Auto iris control response.	STATE:
h)	Pan and tilt control mechanism slow speed smoothness and maintainability.	STATE:
i)	Digital processing induced latency.	STATE:
j)	Simplicity and user friendliness of setup of camera functions and configuration	STATE:
3.3.1.8	Digital (Internet Protocol) cameras will be evaluated in the same evaluation process, and the performance will be judged against the quality of performance produced in the display.	STATE:
3.3.1.9	The SAPS will reject any camera for use where the SAPS find the camera unsuitable for use in the SAPS evaluation during the bid process or during quality assurance evaluation in project delivery.	STATE:
3.3.2	Record Documentation: All documentation must be provided and included in the Training (All learning material), Operating and Maintenance Manuals comprising the following:	
3.3.2.1	Schedule of manufacturers and bidders with all relevant contact details / physical addresses, telephone numbers, emails and fax numbers.	STATE:
3.3.2.2	Cable details comprising cable description, manufacturer's production reference and date of manufacture.	STATE:
3.3.2.3	Equipment details for termination and splicing equipment including original manufacturer's literature.	STATE:
3.3.2.4	Test instrumentation details.	STATE:
3.3.2.5	Test and certification OTDR data for all cables and cable cores.	STATE:
3.3.3	**Optic Fibre Cable Specification: Hang Fibre:**	
3.3.3.1	The optic fibre cables used must be All-Dielectric Self Supporting (ADSS) outdoor cable compliant with at least IEEE P-1222 or equivalent specification.	STATE:
3.3.3.2	The cable mechanical specifications such as allowable bending radius, allowable tensile strength as specified by the cable manufacturer may not be violated in installation.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.3.4	A copy of the cable manufacturer's installation guide or installation instructions together with a 30 cm sample of the various optic fibre cables offered must be submitted as a sample with *Bid* documents. Each sample cable submitted must carry a heat shrink label as is to be used for cable marking in the project.	STATE:
3.3.4	**Passive Surveillance Description:**	
3.3.4.1	Passive surveillance systems are defined as surveillance systems installed to improve security in buildings and on premises where surveillance images are not actively monitored on a full time basis, and where a fully equipped control centre is not required.	STATE:
3.3.4.2	In these systems, the majority of cameras are fixed cameras without remote pan tilt and zoom capability, and are normally installed to monitor a fixed coverage area such as a door or gate entrance, passage, room interior, fence etc.	STATE:
3.3.4.3	The system emphasis is on automation with facilities such as motion detection, recording initiation through alarm generation etc. These systems are intended for use by commanders and other site supervisory personnel where monitoring CCTV is a secondary function and where the main use of CCTV images occurs after the fact.	STATE:
3.3.4.4	Display is often done on a single monitor and full resolution display is normally only done in review when incidents are investigated, usually after the incident.	STATE:
3.3.4.5	Monitoring may be done in real time for purposes of access control etc, but are normally reliant on static cameras not manipulated. The surveillance is also usually done on a site or premises were the illumination can be controlled in contrast with public places active surveillance where surveillance is often required in areas without any formal illumination.	STATE:
3.3.5	**Internet Protocol (IP) Cameras Description:**	
3.3.5.1	**All Internet protocol High Definition (HD)n cameras must at least:**	
3.3.5.1.1	Have power over Ethernet facility as well as 24 VAC power input.	STATE:
3.3.5.1.2	Be capable to deliver MJPEG as well as a current generation H264 compressed output as alternative main streams, in addition to the other formats/compression algorithms supported with adjustable compression and be able to deliver near lossless compression images.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.5.1.3	Be capable of dual video streaming, with H264 and MJPEG delivered simultaneously software configurable.	STATE:
3.3.5.1.4	Support current generation IP protocol.	STATE:
3.3.5.1.5	Have auto back-focus.	STATE:
3.3.5.1.6	Have installation support facilities including rapid mounting design as well as additional video output to facilitate installation positioning and focus verification.	STATE:
3.3.5.1.7	In the case of dome cameras not compatible with C/CS mount lenses, all available option lenses must be quoted.	STATE:
3.3.5.1.8	Be as supplied with Windows based installation, decode and display software that the SAPS and its installers and technicians will have unlimited use off.	STATE:
3.3.5.1.9	Be supplied with an installation guide, mounting and connector kits and tamper proof screws and matching key or screwdriver.	STATE:
3.3.5.1.10	The cameras must function in daylight as a colour camera and must automatically revert to monochrome in low light conditions with an effective sensitivity of 0.01 lux scene illumination or lower light level.	STATE:
3.3.5.1.11	The cameras must provide automatic exposure and gain control.	STATE:
3.3.5.1.12	Auto-iris control for the control of lenses.	STATE:
3.3.5.1.13	DC powered from 9 to 35 Volt.	STATE:
3.3.5.1.14	The cameras must be compatible with the camera housings and PTZ heads used for the general purpose PTZ and static cameras.	STATE:
3.3.6	**Generic High Definition Camera lens requirements:**	
3.3.6.1	All lenses supplied must exceed the camera sensor resolution with an adequate margin to ensure that full camera resolution as specified is achieved in daylight conditions. All generic lens requirements regarding lenses for standard definition cameras as specified in this document must also apply to lenses for high definition and other megapixel resolution cameras.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.7	**Cameras required:**	
3.3.7.1	Dome PTZ	STATE:
3.3.7.2	Dome Static	STATE:
3.3.7.3	Mini Dome	STATE:
3.3.7.4	Mini Dome Vandal Resistant	STATE:
3.3.7.5	Mini Dome Vandal Resistant with IR 30 meter working distance.	STATE:
3.3.7.6	Two types of box type cameras, indoor type standard dynamic range and an indoor type with wide dynamic range optimized for backlit situations, each with the following optional and priced accessories:	STATE:
3.3.7.7	Camera compatible outdoor housings with megapixel optical grade glass window.	STATE:
3.3.7.8	A full series of lenses as required in the Standard Definition Cameras, but with megapixel optical performance to exceed the camera resolution.	STATE:
3.3.7.9	Each of the above cameras are required in nominal resolutions of:	
3.3.7.9.1	1.2 Megapixel,	STATE:
3.3.7.9.2	2 Megapixel	STATE:
3.3.7.9.3	3.2 Megapixel	STATE:
3.3.7.9.4	5 Megapixel	STATE:
3.3.7.10	To be clear, this section calls for 24 high definition cameras. Where a bidder is unable to offer all types, a partial offer can be submitted.	STATE:
3.3.7.11	The list of high definition cameras to be quoted for is thus as follows:	
3.3.7.11.1	Dome PTZ 1.2 Megapixel	STATE:
3.3.7.11.2	Dome Static 1.2 Megapixels	STATE:
3.3.7.11.3	Mini dome 1.2 Megapixel	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.7.11.4	Mini Dome Vandal Resistant 1.2 Megapixel	STATE:
3.3.7.11.5	Mini Dome Vandal Resistant with IR 30 Meter working distance, 1,2 Megapixel	STATE:
3.3.7.11.6	Box-type camera, indoor type standard dynamic range 1.2 Megapixel	STATE:
3.3.7.11.7	Box-type camera, wide dynamic range optimized for backlit situations 1.2 Megapixel	STATE:
3.3.7.11.8	Dome PTZ 2 Megapixel	STATE:
3.3.7.11.9	Dome Static 2 Megapixels	STATE:
3.3.7.11.10	Mini dome 2 Megapixel	STATE:
3.3.7.11.11	Mini Dome Vandal Resistant 2 Megapixels	STATE:
3.3.7.11.12	Mini Dome Vandal Resistant with IR 30 Meter working distance, 2 Megapixel	STATE:
3.3.7.11.13	Box type camera, indoor type standard dynamic range 2 Megapixel	STATE:
3.3.7.11.14	Box type camera, wide dynamic range optimized for backlit situations 2 Megapixel	STATE:
3.3.7.11.15	Dome PTZ 3.2 Megapixel	STATE:
3.3.7.11.16	Dome Static 3.2 Megapixels	STATE:
3.3.7.11.17	Mini dome 3.2 Megapixel	STATE:
3.3.7.11.18	Mini Dome Vandal Resistant 3.2 Megapixels	STATE:
3.3.7.11.19	Mini Dome Vandal Resistant with IR 30 Meter working distance, 3.2 Megapixel	STATE:
3.3.7.11.20	Box type camera, indoor type standard dynamic range 3.2 Megapixel	STATE:
3.3.7.11.21	Box type camera, wide dynamic range optimized for backlit situations 3.2 Megapixel	STATE:
3.3.7.11.22	Dome PTZ 5 Megapixel	STATE:
3.3.7.11.23	Dome Static 5Megapixels	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.7.11.24	Mini dome 5 Megapixel	STATE:
3.3.7.11.25	Mini Dome Vandal Resistant 5 Megapixel	STATE:
3.3.7.11.26	Mini Dome Vandal Resistant with IR 30 Meter working distance, 5 Megapixel	STATE:
3.3.7.11.27	Box type camera, indoor type standard dynamic range 5 Megapixel	STATE:
3.3.7.11.28	Box type camera, wide dynamic range optimized for backlit situations 5 Megapixel	STATE:
3.3.7.11.29	Digital (Internet Protocol) cameras will be evaluated in the same evaluation process, and the performance will be judged against the quality of performance produced in the display.	STATE:
3.3.8	**Special High Resolution Day/Night Static Camera**	
3.3.8.1	**General Purpose Day/Night Static IP Camera Megapixel Resolution**	
3.3.8.1.1	At selected sites where the requirement for high detail surveillance exists, the SAPS requires cameras with resolution in the range of 10 Megapixel to 30 Megapixel	STATE:
3.3.8.1.2	The camera must have a digital Ethernet output and must deliver flexible digital image streaming in MJPEG, H264 or JPEG2000 or better format with software selectable compression levels and rate of image generation with at least a dual streaming capability.	STATE:
3.3.8.1.3	The cameras must function in daylight as a colour camera and must automatically revert to monochrome in low light conditions with an effective sensitivity of 0.01 lux scene illumination for colour operation.	STATE:
3.3.8.1.4	Colour, colour/monochrome as well as monochrome only cameras are required.	STATE:
3.3.8.1.5	The camera must provide automatic exposure and gain control.	STATE:
3.3.8.1.6	Auto iris control for the control of lenses.	STATE:
3.3.8.1.7	The cameras must be compatible with high specification lenses at least equivalent to high quality single lens reflex cameras advanced photo system (APS) C-sensor type.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.8.1.8	An effective dynamic range of better than 60 dB is required.	STATE:
3.3.8.1.9	Power options of power over Ethernet, 12 Volt DC and 24 VAC are required.	STATE:
3.3.1.8.10	A series of lenses compatible with the cameras offered must also be quoted and offered.	STATE:
3.3.8.1.11	Lenses with focal lengths from approximately 10 mm to 1000 mm must be offered; including prime as well as vari-focal (zoom) lenses must be offered.	STATE:
3.3.8.1.12	IR illuminators must be supplied and installed in low light and dark areas	STATE:
3.3.8.1.13	In certain areas larger long range IR illuminators (LED type blocks) must be installed to enable the cameras to function and perform surveillance functions	STATE:
3.3.8.1.14	The IR LED blocks must be adjustable for illumination and range purposes	STATE:
3.3.9	**Ethernet Network:**	
3.3.9.1	The Ethernet Local Area Network used to carry the camera outputs to the recording system must be an independent LAN installed by the successful bidder for this purpose and designed to successfully deliver the required system functionality and capacity.	STATE:
3.3.9.2	The IP design and allocation of IP addresses used for all devices on this independent IP network must be done in conjunction with the SAPS Network infrastructure Management component; such that IP conflicts and network performance is assured in the long term.	STATE:
3.3.9.3	The successful bidder must build this network with adequate transmission capacity to ensure that the system functions according to the required performance as described in this specification, including CCTV as well as the Access Control System requirements.	STATE:
3.3.9.4	The Ethernet Local Area Network used to carry the camera outputs must terminate at each site in the recording system. The recording system must have an Ethernet port into the SAPS LAN that will enable remote users to access the system via appropriate security measures such as user name and password access control.	STATE:
3.3.10	**Virtual Video Matrix System Requirements:**	
3.3.10.1	All operators must have easy access to all cameras in the system.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.10.2	The system must switch video feed, telemetry feed for control and video to full rate storage upon selection of a camera by an operator.	STATE:
3.3.10.3	All cameras not actively monitored by operators must automatically be returned to a default position or default automated patrol.	STATE:
3.3.10.4	The system must interface with users through a graphical interface that must facilitate easy and rapid selection of cameras by operators.	STATE:
3.3.10.5	The system must be compatible with cameras from a range of bidders, allowing "best camera for the job" to be selected without being restricted by *Proprietary* camera control protocols	STATE:
3.3.10.6	The system must be expandable to a maximum capacity equal to or larger than the foreseen maximum camera capacity that must be determined before system installation. The SAPS must investigate a site and determine a maximum capacity, (number of cameras) that the site is planned for. A smaller number of cameras may be deployed at system commissioning, but all systems that will require enlargement must be selected to be expandable to maximum system scale as determined in a site deployment planning exercise conducted jointly by SAPS and the successful bidder.	STATE:
3.3.11	**Video / Voice and Data Storage System:**	
3.3.11.1	All video recording must be near lossless compression, with more than 98% of pixels in a digital image reproduced accurately. H264 compression must be used as the default algorithm used.	STATE:
3.3.11.2	When a surveillance image feed content changes rapidly, such as during panning, or when scenes with high activity are recorded, compression may not cause loss of information such as vehicle number plates in the scene, or other high detail image content that would have been captured if stationary.	STATE:
3.3.11.3	All cameras not actively monitored by operators must be recorded at a reduced frame rate, with the frame rate software selectable between 0.5 to 25 frames per second. A range of frame rates are required to enable balancing video continuity with occupied storage media. The default frame rate for cameras that are actively recording motion must be 12 frames per second.	STATE:
3.3.11.4	All cameras actively used by operators must be recorded at high frame rate of up to 25 (or more) frames per second. Frame rate must be software adjustable to allow SAPS operational staff to manage available storage media.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.12	**Recording:**	
3.3.12.1	All cameras must be recorded in a tamper-proof digital video recording system.	STATE:
3.3.12.2	The system must cater for different video qualities, enabling the SAPS to record each camera on a quality level suitable for the purposes of the specific camera. The default specification for cameras in the system must be full HD (1920 x 1080). The system must also make provision for the recording of higher resolution cameras that will be included in the system of at least up to 30 Megapixel. The system will also make provision for storage of Analogue Pal feeds where SAPS elects to keep existing cameras or to use specialized cameras such as thermal or other night vision cameras that may not be available as Ethernet based cameras.	STATE:
3.3.12.3	The system must record on hard drive, retaining data for a pre-planned period before overwriting recordings.	STATE:
3.3.12.4	The system must be able make at least two recordings of a camera, on different quality/resolution levels, different frame rates, and in different buffer sizes, creating the facility of retaining high frame rate, high resolution images for a planned period and retaining reduced content recording for a longer period.	STATE:
3.3.12.5	The memory management capability referred to must be user friendly and optimal utilisation of these facilities must be thoroughly covered in operator training.	STATE:
3.3.12.6	The system may use either an appropriate Raid drive configuration or discrete drives per camera with redundancy provided in the form of a second drive on standby per camera.	STATE:
3.3.12.7	The operating temperature range that the hard drives are rated for by the drive manufacturer must be declared in the specification and the mechanical lay-out of the system must be such that this temperature range is not exceeded in operation in this system. The maximum case temperature for the drives used must be disclosed here in the bid response. It must be the temperature limit recommended by the drive manufacturer to meet manufacturer stated MTBF for the drives.	STATE:
3.3.12.8	Depending on the temperature range of the drives, forced air-cooling must be used to protect drives from over temperature.	STATE:
3.3.12.9	Key systems such as video encoder that through failure will result in cameras not being recorded must be identified. This key system must be monitored	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
	for failure and where failure occurs, automatic switch over to backup systems must immediately take place.	
3.3.12.10	All system building blocks in the recording system must be well developed systems with internal diagnostics failure alarm facilities.	STATE:
3.3.12.11	A technical alarm system must be fully integrated into the control centre systems, and must serve as primary support management tool.	STATE:
3.3.12.12	The technical alarm system must monitor the video recording equipment, as well as the communications network and all other mission critical systems.	STATE:
3.3.12.13	It is essential that recording can proceed without interruption while footage is played back or downloaded.	STATE:
3.3.12.14	The technical alarm system must display all system alarm statuses on a mimic on computer display and must be integrated into the system such that the operators can call up this display on a personal computer in the control centre.	STATE:
3.3.12.15	The system must include a facility to forward alarms from the internal diagnostics to be forwarded to a standby technician via SMS or better in terms of reliability and delivery time. The alarm must be delivered within 5 seconds from being sent.	STATE:
3.3.13	**Quality of Recording:**	
3.3.13.1	The default recording resolution and quality must be adequate to record a colour full high definition feed of 1920 by 1080 pixels without any user detectable degradation of image quality.	STATE:
3.3.13.2	The normal compression ratio must be adjusted such that high detail must be retained in the recorded material. Typically where the characters of a vehicle number plate are readable in a directly viewed camera view, the same characters must be readable in the replayed recording.	STATE:
3.3.13.3	The recording must be able to record at least in H264, Motion jpeg as well as Mpeg 2 formats, software selectable per camera feed.	STATE:
3.3.13.4	The degree of image compression must be software adjustable to enable optimal utilization of recording media.	STATE:
3.3.13.5	The recording system must capture detail of fast moving subjects such as running persons or moving vehicles. Recording of vehicle registration plates of vehicles passing through the view static or PTZ cameras is required at	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
	speeds up to 220 Km/hr in all cases where a standard sedan vehicle image height is 1/3 of the video image height or larger. (This clause applies to cases where the camera shutter speed is acceptable for the purpose)	
3.3.13.6	The recording system must be able to capture all PAL video feeds at up to at least 600 television line resolutions where any PAL based cameras are used. This may be required for specialised cameras of extreme sensitivity or for specialised thermal cameras not available as Ethernet based cameras.	STATE:
3.3.13.7	Each operator in the facility must be able to access the system via a personal unique password.	STATE:
3.3.13.8	The system must keep a log file of all activities of each operator that will enable the system manager to reconstruct the activities of each operator, including all recordings accessed, and all cameras controlled.	STATE:
3.3.13.9	The system and its software must be of recent generation with a planned life expectancy of at least 10 years with all software and firmware upgrades included in the offer for 10 years after date of system commissioning.	STATE:
3.3.13.10	The system must be able to accommodate a wide range of digital television formats including HDTV/LED formats. Bidder (s) must submit a presentation on present software development for the product offered as well as formally scheduled developments.	STATE:
3.3.13.11	In replay the system must be able to separately replay odd and even line frames from a recording of Phase Alternate Line (PAL) format video feed. This is especially required for moving subjects where the typical PAL camera captures the odd and even frames at different times.	STATE:
3.3.13.12	Operators who observe crime in progress must have available a facility within the system to mark recordings as evidence and such material must be protected from being over written.	STATE:
3.3.13.13	The system must alert the system manager/supervisor of such protected recorded material. The system manager must have a facility to duplicate such protected evidence material to an evidence locker that must be connected to the system, but that must be protected under additional access control such as a higher level pass word access control.	STATE:
3.3.13.14	All recorded files must carry an imbedded authentication mark. The replay systems must be able to test any replay material and determine of the recording status, including date and time of recording, camera number, operator logged on at the time.	STATE:

	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.13.15	The system must be of a design that will enable future expansion to at least 1000 cameras, while retaining all present facilities.	STATE:
3.3.13.16	An operator will be able if authorized to access recordings from all cameras in the system from one operator station.	STATE:
3.3.13.17	The frame rate of recording must be software adjustable per camera feed, and must be programmable to cater for varying recording requirements. Low rate recording must for example be available with video motion detection triggering higher recording rates.	STATE:
3.3.14	**User Facilities:**	
3.3.14.1	It is critically important that the operators must be able to focus on their primary function of observation and response co-ordination and must therefore be equipped with the facilities required to properly control cameras and display, but will not be burdened with video archive management functions. Operator facilities must be limited to simple facilities that require a minimum of training to execute observation and response co-ordination.	STATE:
3.3.14.2	Operators must have the facility to instantly replay any recording from any camera in the system.	STATE:
3.3.14.3	The instant replay facility must not allow any operator in the control centre to edit or delete any recording.	STATE:
3.3.14.4	Video archiving must be fully digital, high quality and mostly automated. Video archive management facilities must not be provided in the CCTV control room, but rather in the manager office and evidence review facility. Archive management access must be protected with password and Biometric security access control.	STATE:
3.3.14.5	Operators must have only review access to recently recorded material and must thus be able to review recently recorded material from the archive, and extract still images in Jpeg format for email to other police units as lookout information. Images are to be saved on portable memory and transferred manually to the SAPS email system provided by the SAPS.	STATE:
3.3.14.6	Integrated into the telemetry installation in the control centre must be a central network management and alarm system that must interrogate the transmission systems at the various fibre optic cable connected sites for fault identification.	STATE:
3.3.14.7	The transmission equipment at each optic fibre cable connected site must have internal diagnostics and these systems must be interfaced via fibre	STATE:

	DESCRIPTION	COMPLY / DO NOT COMPLY
	carried data communications to the central network management and alarm system.	
3.3.14.8	The central network management and alarm system must provide network status display on a monitor output that must be displayed in the technical area, as well as being connected to the main video display to provide access to network status for the supervisor in the control centre. The alarms must display in table and graph form user selectable.	STATE:
3.3.14.9	The central network management and alarm system must send alarms on short data message via GSM modem to a software selectable list of standby staff cell phone numbers.	STATE:
3.3.14.10	All alarms and network status changes must be logged in a database attached and interfaced to the network management and alarm system, and must be kept on personal computer hard drive for up to at least one year.	STATE:
3.3.15	**The system must provide for at least the following alarms:**	
3.3.15.1	Mains power failure at connected camera sites.	STATE:
3.3.15.2	Optical level readings and alarms.	STATE:
3.3.15.3	Battery voltage levels of UPS or battery backup at connected camera sites, including solar panels if needed.	STATE:
3.3.15.4	Mains power failure at the control centre. Bidders must make provision for backup power supply e.g. UPS and generators in technical proposals and pricing proposals.	STATE:
3.3.15.5	Air-conditioning failure at the control centre. Bidders must make provision for backup air-conditioning systems in technical proposals and pricing proposals.	STATE:
3.3.15.6	Fire and Smoke detection at the control centre. Bidders must make provision for fire and smoke detection solutions in technical proposals and pricing proposals.	STATE:
3.3.15.7	Video Display (Building and Premises Systems)	STATE:
3.3.15.8	The video display must be on high resolution LCD displays of at least 1920 x 1080 resolution. The colour reproduction must be true and calibrated.	STATE:
3.3.15.9	The aspect ratio of the display panels must be 16:9	STATE:

	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.15.10	Contrast ratio of the display must be at least 900:1	STATE:
3.3.15.11	The back light life must be at least 60 000 hours.	STATE:
3.3.15.12	The panel size must be available in a range of sizes from at least 12 inch diagonal to 40 inch or larger diagonal.	STATE:
3.3.15.13	The panels can be driven from the Digital Video Recorder to accomplish multiple images per display.	STATE:
3.3.15.14	The displays must operate real time in the sense that the displays must operate at full frame rate of 25 FPS.	STATE:
3.3.15.15	Spot Monitor Display	STATE:
3.3.15.16	Each operator position must be equipped with one 16 x 9 spot monitor of 19 inch or larger diagonal diameter for live video monitoring fed from the system.	STATE:
3.3.15.17	Each operator position must be equipped with a second 16 x 9 monitor, fed from the NVR for rapid video replay of recent recorded material during incident management.	STATE:
3.3.15.18	The system must be capable of "tripwire" software included in the management of the perimeter surveillance cameras. The software must be capable of allowing the software to identify certain actions in the identified areas for alarm/flagging to the relevant control room and/or supervisors	STATE:
3.3.15.19	The "tripwire" software must be included in the software in the NVR system.	STATE:
3.3.15.20	The system must provide for a Video Management Software (VMS) platform that will gather all event data into a system that will manage, store and validate the data	STATE:
3.3.16	**The VMS system must provide the following:**	
3.3.16.1	Remote viewing access to all data.	STATE:
3.3.16.2	A control room solution that will provide the operators with all the necessary and relevant event information in a simplified and manageable format.	STATE:
3.3.16.3	Indicate all events that need to be addressed	STATE:
3.3.16.4	Provide actions steps to be taken as part of the display	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.16.5	Escalate events to supervisors and managers	STATE:
3.3.16.6	Provide a video wall that can be set up in any configuration	STATE:
3.3.16.7	Provide access to camera controls	STATE:
3.3.16.8	Link various data gathering systems and combine the data in such a way that the data can be viewed on the various video walls in flexible configuration	STATE:
3.3.16.9	All video data must be stored in a fashion that limits any type of processing to the data. The data as captured must be stored in an unaltered state on the NVR's.	STATE:
3.3.16.10	Image Quality in and around SAPS premises	STATE:
3.3.16.11	The general surveillance cameras placed in passages and general areas must capable of delivering facial recognition quality images at distances of 5 meters	STATE:
3.3.16.12	The general surveillance cameras must be capable of facial recognition quality images in normal day light (3 000 to 7 000 lux)	STATE:
3.3.16.13	The general surveillance cameras must be capable of facial recognition quality images in low light conditions (10 to 100 lux)	STATE:
3.3.16.14	The general surveillance cameras must be capable of facial recognition quality images in low light conditions (below 10 lux) with the aid of IR illumination. The switch to mono chrome images must still provide facial recognition quality images	STATE:
3.3.16.15	All general surveillance cameras must deliver images of at least HD (1080P) resolution.	STATE:
3.3.16.16	General surveillance cameras may be equipped with internal IR illuminators to provide IR illumination in very low light conditions. Where necessary IR illuminators must be installed as part of the camera systems to provide the necessary illumination for facial recognition quality images	STATE:
3.3.16.17	All PTZ cameras must be equipped with adequate zoom lenses to enable the cameras to provide images that are of facial recognition quality. The PTZ cameras must be capable of delivering HD (≥ 1080P) resolution images. No digital zoom that will result in reduced resolution will be used. Image quality performance will be designed to enable the operators to recognize persons or items also at maximum zoom.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.16.18	All general surveillance cameras must be installed at a height where the cameras will record the facial features of personnel/visitors in detail as well as the actions of the personnel/visitors during	STATE:
3.3.16.19	All cameras installed at access control points must deliver full facial recognition quality images. These images must be ≥ 1080P HD quality	STATE:
3.3.16.20	Building entry points must be equipped with specific camera installations capable of capturing forensic quality facial identification images of the faces of persons entering the building.	STATE:
3.3.16.21	Forensic quality facial images are specified an image in which micro level features on the face, which includes scars, moles, wrinkles and other facial marks are effectively captured. This level of quality will enable identification of an individual to the degree that all reasonable doubt over identity of the individual is removed.	STATE:
3.3.16.22	All dome fish eye cameras must be equipped with additional IR illumination illuminators for functioning in very low light to complete dark environments.	STATE:
3.3.16.23	All perimeter surveillance cameras must be capable of full HD ≥1080P high quality pictures.	STATE:
3.3.16.24	All perimeter surveillance cameras must be capable of operations in day light (3000 lux to 130000 lux) and very low light conditions where additional IR illumination is needed. The cameras must be capable of delivering HD quality images in both instances.	STATE:
3.3.16.25	All terrain surveillance PTZ cameras must be full HD ≥1080P capable.	STATE:
3.3.16.26	All terrain surveillance PTZ cameras must be capable of operations in full day light (300 lux to 130000 lux) and very low light conditions where additional IR illumination is needed. The cameras must be capable of delivering HD quality images in both instances.	STATE:
3.3.17	**Server for Digital Video Recording and Access Control System data storage.**	
3.3.17.1	The following paragraphs describes a Digital Video Recorder Server for a site with approximately 500 cameras installed, and may be scaled up or down pro rata in relation to the scale of the installation per site.	STATE:
3.3.17.2	The rack mount must be configured to:	
3.3.17.2.1	Include up to 80 3.5" discs enclosed in the rack/shelve	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.17.2.2	Include up to 48 ports into system.	STATE:
3.3.17.2.3	Include the disc array controller to control ≥900 discs	STATE:
3.3.17.2.4	The host interface must be fibre optics with a transfer rate of ≥8 Gbps	STATE:
3.3.17.2.5	The disc array must have a backup to flash memory of at least 48GB, upgradable to 96GB	STATE:
3.3.17.2.6	The disc array must be a RAID type with a RAID level of ≥ RAID 10	STATE:
3.3.17.3	**The disc drive specifications must configure to:**	
3.3.17.3.1	SAS (Serial-Attached SCSI solid-state drive) interface (6 Gbps) or better.	STATE:
3.3.17.3.2	SAS HDD of 3.5" discs of up to 600GB (15 000 rpm) equivalent or better.	STATE:
3.3.17.3.3	Disc capacity of SAS HDD (Solid State Drives) to handle complete system live and be able to write all data to storage without data loss	STATE:
3.3.17.3.4	The disc array must be configured to allow for the installation of up to ≥900 discs	STATE:
3.3.17.3.5	The server setup must be configured to a SAN server infrastructure	STATE:
3.3.18	**Software controllers:**	
3.3.18.1	Include a storage manager suite.	STATE:
3.3.18.2	Manager suite.	STATE:
3.3.18.3	Data replication management suite.	STATE:
3.3.18.4	Device manager suite.	STATE:
3.3.18.5	Performance manager suite.	STATE:
3.3.18.6	Disc array management suite.	STATE:
3.3.18.7	Data pathway controller suite	STATE:
3.3.18.8	Capable of operating the latest Operating Systems (OS) such as Windows, Linux etc.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.19	**The disc array cabinet setup must have the following dimension:**	
3.3.19.1	≤2000 x 700 x 700 mm	STATE:
3.3.19.2	Electricity supply of 240V at 50Hz,	STATE:
3.3.19.3	Power consumption of:	
3.3.19.3.1	≤ 2000 W for the disc array.	STATE:
3.3.19.3.2	≤ 1500 W for the rack and its cooling.	STATE:
3.3.20	**Environmental conditions:**	
3.3.20.1	Operate between 5°C and less than 50°C	STATE:
3.3.20.2	Endure - 6°C to 60°C storage temperatures	STATE:
3.3.20.3	Endure between 5% and 80% humidity, during operations and storage conditions.	STATE:
3.3.21	**Additional:**	
3.3.21.1	All components must be high speed units and interfaces (including Solid State Drives).	STATE:
3.3.21.2	All data must automatically be located to a suitable drive.	STATE:
3.3.21.3	The system must be installed with security functions and self-encryption drives	STATE:
3.3.21.4	The system must allow for expansion and performance upgrades without stopping operations	STATE:
3.3.21.5	The system must allow backup through ISCSI interface units	STATE:
3.3.21.6	The system must allow for data migration and movement between storage units without FC switches	STATE:
3.3.21.7	Fault Tolerant Server (FTS)	STATE:
3.3.21.8	Equipped with ≥ two logical server processors, at least equivalent to Intel Xeon E5-2670 (2.60 GHz/8 core / 20MB) Intel C602 chipset or better.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.21.9	Use DDR3L DIMM RAM memory where necessary	STATE:
3.3.21.10	Must be able to receive up to 16 memory modules	STATE:
3.3.21.11	The server storage must be of 3.5" disc SAS hot plug type	STATE:
3.3.21.12	Clock speed of ≥ 1066MHz or better	STATE:
3.3.21.13	Be equipped with logical hard drive bays	STATE:
3.3.21.14	Internal logical storage space	STATE:
3.3.21.15	Optical drive (DVD-RAM), or Blue Ray to generate output	STATE:
3.3.21.16	Logical port expansion slots (2 full height PCI'e and 2 low profile PCI'e)	STATE:
3.3.21.17	Integrated into the server controller, ≥32 MB video VRAM	STATE:
3.3.21.18	Power consumption of ≤1 300 W	STATE:
3.3.22	**External interface:**	
3.3.22.1	At least one VGA port	STATE:
3.3.22.2	USB 2.0/3.0 or Fire Wire ports	STATE:
3.3.22.3	LAN ports to camera feeds as well as to SAPS internal data network	STATE:
3.3.22.4	Managerial LAN port linked to internal SAPS data network for remote viewing purposes	STATE:
3.3.22.5	Logical network interface for FTS	STATE:
3.3.22.6	Software controllers for FTS	STATE:
3.3.23	**Systems management suite:**	
3.3.23.1	OS such as Windows server 2008 or equivalent	STATE:
3.3.23.2	Rapid disc re-sync suite for active upgrades or system replacements	STATE:
3.3.23.3	FTS dimensions and environment controls	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.23.4	Operating temperature 10°C to 40°C	STATE:
3.3.23.5	Non-operating temperature -10°C to 60°C	STATE:
3.3.23.6	Humidity between 20% to 80% in operating and non-operating modes	STATE:
3.3.24	**Additional FTS features:**	
3.3.24.1	Ability for easy replacement of major sub-systems without systems shutdown, hot plug modules	STATE:
3.3.24.2	Ability for remote management regardless of the server's status	STATE:
3.3.24.3	Additional Network Video Recorder (NVR) features	STATE:
3.3.24.4	Fibre channel communications board kit, with 8Gbps ability or better	STATE:
3.3.24.5	All the necessary power cables for electricity supply must be included in the bid	STATE:
3.3.24.6	All the necessary communication cables/optical fibre links between the NVR, the server disc array and the network	STATE:
3.3.24.7	Full control module to form part of the server/NVR disc array system. All control functions to be part of the setup.	STATE:
3.3.24.8	Unless specified differently in the specification a default 5 year support of the system (hardware and software) must be included in the bid.	STATE:
3.3.25	**Remote Viewing:**	
3.3.25.1	Remote viewing is required by SAPS commanders of the spaces under their respective command and control.	STATE:
3.3.25.2	SAPS commanders granted access to the systems must be supplied with all required access software or must be granted access via a web browser, for which the standard SAPS web browser must be used. The bidder must provide all required additional software and training to provide this remote viewing access. The system must provide a panic button to lock the designated areas in case of emergency until the system is over-ridden by an authorised person or over-user.	STATE:
3.3.25.3	The managerial software must make provision for the remote viewing of live and/or heritage data from any site linked to the security network.	STATE:

	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.25.4	Installed work stations need to be supplied for each site as a central control station.	STATE:
3.3.25.5	Workstations must be dedicated to the security system with appropriate security capabilities.	STATE:
3.3.25.6	The managerial software must be capable of launching specific search parameters for active and heritage data	STATE:
3.3.25.7	The remote viewing must include all the video, access control and peripheral data to specific search parameters	STATE:
3.3.25.8	All remote viewing sites must be linked to the SAPS Wide Area Network (WAN) though safe linked access to the various data servers throughout the installed sites	STATE:
3.3.25.9	Remote viewing stations must be equipped with very high quality flat screen technology (HD or better)	STATE:
3.3.25.10	The work-stations must be equipped with suitable graphics cards, software, memory and processors that will be capable of providing the necessary information to the users.	STATE:
3.3.25.11	All viewing workstations must be upgraded every 24 months to keep abreast with technology.	STATE:
3.3.26	**Access Control System:**	
3.3.26.1	The Bidder must provide, install, and program a functionally complete integrated access control, electronic locking, and door monitoring system per Manufacturer's guidelines and codes, as described in the following specifications.	STATE:
3.3.26.2	The Bidder must perform all work described in this document along with any work not expressly mentioned in the specifications, but obviously necessary, for the proper execution of the same. It is not the intent to delineate or describe every detail and feature of work.	STATE:
3.3.26.3	No additions to the contract sum will be approved for any materials, equipment, and/or labour to perform work hereunder unless it can be clearly shown to be beyond the scope and intent of the drawings and specifications and absolutely essential to the proper prosecution of the work.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.27	**Documentation to be Submitted by Bidder after Award of Contract:**	
3.3.27.1	Drawings: Shop drawings to provide details of proposed system and the work to be provided. These include point-to-point drawings of systems and wiring diagrams of individual devices.	STATE:
3.3.28	**Documentation to be Submitted by Bidder upon Completion of System Installation:**	
3.3.28.1	"As-built" drawings: Upon completion of installation, the Bidder must prepare "as-built" drawings of the system. These "as-built" drawings must be drawings of each floor plan indicating exact device locations, panel terminations, cable routes, and wire numbers as tagged and colour-coded on the cable tag.	STATE:
3.3.28.2	"As-built" drawings must be submitted to the SAPS for approval prior to the system acceptance walk through.	STATE:
3.3.28.3	Operation and Maintenance Manuals: One (1) set of operating manuals must be provided explaining the operation and maintenance of the system.	STATE:
3.3.29	**On-site Security Personnel Training:**	
3.3.29.1	Upon completion of the installation, the Bidder must furnish training in the complete operation of the system.	STATE:
3.3.30	**System Approvals**	
3.3.30.1	The system must be an engineered system from a single engineering source, with equipment, protocol and other technical compatibility fully assured. The solution offered must be practically proven over an extended period, adequate to ensure a high level of systems stability.	STATE:
3.3.30.2	After-Sales Support: The Bidder must be a factory-authorized and trained dealer of the system and must be certified to maintain/repair the system after system acceptance.	STATE:
3.3.31	**The access control system must be installed with the following components and functions:**	
3.3.31.1	Biometric finger print readers at all identified access portals for vehicles and personnel must be installed with due regard for the ergonomics at the point of use. (Within easy reach of users on foot or in vehicles as appropriate per installation).	STATE:

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SPECIFICATION FOR THE SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING, TRAINING AND WARRANTY OF CLOSED-CIRCUIT TELEVISION AND ACCESS CONTROL SYSTEMS FOR DIVISION CRIME INTELLIGENCE, DIVISION SUPPLY CHAIN MANAGEMENT AND TELKOM TOWERS - NORTH TOWER WITH MAINTENANCE AND SUPPORT: SOUTH AFRICAN POLICE SERVICE

	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.31.2	Biometric finger print reading for access to secured zones, as well as a panic finger facility.	STATE:
3.3.31.3	The panic finger facility will grant access to the secured zone, but will raise a security alarm in the control room of the facility as well as on the secured zone.	STATE:
3.3.31.4	Complete network including cables, conduits and power supply units.	STATE:
3.3.31.5	A full control system (including localised sub-controllers), including computer systems, control software and remote viewing capabilities.	STATE:
3.3.31.6	Vehicle boom systems at all the vehicle entrances / exits to the facilities.	STATE:
3.3.31.7	Vehicle tyre spikes in conjunction with vehicle booms.	STATE:
3.3.31.8	Turnstiles to the facilities where such equipment is not yet installed. The turnstiles must be linked directly to the access control system.	STATE:
3.3.31.9	Electro/Magnetic door lock systems (separate from the standard installed door locks) with door open monitors built into the system.	STATE:
3.3.31.10	Door open and closure devices for access doors used by disabled personnel and utility access.	STATE:
3.3.31.11	Door closure devices that will automatically close the door after it was opened.	STATE:
3.3.31.12	The access control system will be used to permit access of personnel, visitors and vehicles to offices and sites where access is granted.	STATE:
3.3.31.13	All equipment must be installed according to the local building codes and manufacturer's recommendations.	STATE:
3.3.32	**The system programming must include**:	
3.3.32.1	Configuration of all of the following parameters:	
3.3.32.1.1	Zones	STATE:
3.3.32.1.2	Shifts	STATE:
3.3.32.1.3	Access profiles of individuals regarding specific zones	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.32.1.4	Time and attendance.	STATE:
3.3.32.1.5	Vehicle access periods.	STATE:
3.3.33	**Reporting:**	
3.3.33.1	Time and attendance of personnel. This must include very specific monthly reporting of all personnel's access details.	STATE:
3.3.33.2	Reporting detail must be selectable to include a full range of selectable parameters, from general access control data to very detailed data (down to the second information).	STATE:
3.3.33.3	Personnel and visitor movement.	STATE:
3.3.33.4	Storage of the access control information must form part of the CCTV system data information.	STATE:
3.3.33.5	The programming must be able to synchronise the CCTV and Access Control System information.	STATE:
3.3.33.6	Maintain the finger print database for all personnel.	STATE:
3.3.33.7	Provide event reports, settings and system configurations and access level reports.	STATE:
3.3.33.8	Must be able to cover the needs of every site/buildings and must be expandable to add new zones.	STATE:
3.3.33.9	Be user friendly and allow for easy access and operations.	STATE:
3.3.33.10	All data changes must be immediate and directly applied to the systems operations.	STATE:
3.3.33.11	Must display real time floor plans and systems diagnostics.	STATE:
3.3.33.12	Output must be through PDF and Excel formats and must be accessible through USB / FireWire ports or CD / DVD / Blue-Ray drives.	STATE:
3.3.33.13	The total system must be protected by tamper alarms built into the software system.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.33.14	Daily data verification with each finger print reader to ensure the access data for each unit is current.	STATE:
3.3.34	**Administrative System:**	
3.3.34.1	The system must include an administrative system where the user can maintain the data base and perform daily functions required to keep the system current. Add and removal of personnel and visitors data.	STATE:
3.3.34.2	The system must be able to communicate with the SAPS PERSAL system to verify the personnel's information. This is to only grant access to active SAPS personnel to the buildings/sites. The system must allow for manual override by selected personnel.	STATE:
3.3.34.3	The Access Control system must periodically verify the status of employees as still employed against the SAPS PERSAL system. The default period must be daily. The period must be software adjustable.	STATE:
3.3.34.4	The system must account for the entrance and departure of vehicles through the vehicle booms. The system must be able to communicate with the E-Natis system to verify the vehicle status before vehicle access. The system must allow for manual override by selected personnel.	STATE:
3.3.34.5	The access control system must make use of the same master time clock as used by the complete security system.	STATE:
3.3.34.6	Each access controlled door must have two biometric access control devices, one inside and one outside.	STATE:
3.3.34.7	Each access controlled door or vehicle boom must have a power backup system to ensure that the system stays functional during power failures. This includes the integration into the sites/building's UPS systems.	STATE:
3.3.34.8	Each access controlled door / vehicle gate must be equipped with an emergency override such as a "break glass" or exit buttons inside safes.	STATE:
3.3.34.9	The access control systems must be installed with localised control systems controlling the systems as sub-systems on the various floors; all the localised systems must be directly linked to the main control system. Each localised system must be accessible through a laptop or network port in the case of main system failure. This will allow systems maintenance until the main system is repaired.	STATE:
3.3.34.10	Finger print readers for the standard access control points will be normal finger print readers with false finger (galvanic skin response) functions.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.35	**Finger print readers at very sensitive access points will include the following additional security features:**	
3.3.35.1	3D profile recognition.	STATE:
3.3.35.2	Finger structure recognition functions, with inclusion of vein, arterial position or structure identification.	STATE:
3.3.35.3	The access control points at the main site/building entrances and sensitive storage areas must be integrated with the CCTV facial recognition software system. Facial recognition cameras must be installed in conjunction with the finger print readers.	STATE:
3.3.36	**Technical Requirements of Access Control System:**	
3.3.36.1	**Biometric Access Control Units:**	
3.3.36.1.1	Terminals must be mountable on walls or other structures at access portals	STATE:
3.3.36.1.2	Terminals must connect to the system via Ethernet ports with port security features that prevent connection into the system with unauthorized devices.	STATE:
3.3.36.2	**Terminal be equipped with:**	
3.3.36.2.1	Optical sensor at least ≥23 x 23 mm	STATE:
3.3.36.2.2	Galvanic skin response detection or fake finger detection must be provided.	STATE:
3.3.36.2.3	An LCD (Liquid Crystal Display) graphics display with back lighting must be used as user interface feedback in use of the soft keys.	STATE:
3.3.36.2.4	Robust Keypad with 12 keys developed for at least 10 years of daily use life expectancy.	STATE:
3.3.36.2.5	The access control unit must have Programmable soft keys to enable user friendly management support functionality.	STATE:
3.3.36.2.6	The access control unit must indicate access status visually via an LED with two colours (green and red).	STATE:
3.3.36.2.7	The access control unit must also indicate access status via a buzzer as warning device.	STATE:
3.3.36.2.8	Must have a microprocessor(s) with multi thread processing capability.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.36.3	**Must be capable of interface with:**	
3.3.36.3.1	Ethernet (10/100 Base T).	STATE:
3.3.36.3.2	USB.	STATE:
3.3.36.3.3	RS 422/485.	STATE:
3.3.36.3.4	Clock data in/out link.	STATE:
3.3.36.3.5	HDMI (High Definition Multimedia Interface)	STATE:
3.3.36.4	**Security:**	
3.3.36.4.1	The access control unit must provide a security capability such as Transport Layer Security (TSL) or Secure Socket Layer (SSL) on the TCP/IP network.	STATE:
3.3.36.4.2	Security type screws to reduce the risk of tampering.	STATE:
3.3.36.4.3	Anti-theft and anti-tamper switches.	STATE:
3.3.36.5	**Power:**	
3.3.36.5.1	The access control unit must be capable to operate from either a 9V to 16V dc supply or power from the Ethernet.	STATE:
3.3.36.6	**Environmental specifications for the access control unit :**	
3.3.36.6.1	Operating Temperature range of -10° to +50°C	STATE:
3.3.36.6.2	Operating Relative humidity range 10% to ≥80%	STATE:
3.3.36.6.3	Weatherized protection housing.	STATE:
3.3.36.6.4	Water resistant for rain, at least Ingress Protection (IP) 65 rated.	STATE:
3.3.36.6.5	Must provide a shield to protect optical sensor.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.36.7	**Database:**	
3.3.36.7.1	Have an internal capacity of at least 50 000 users per unit.	STATE:
3.3.36.7.2	Provide two finger templates per user.	STATE:
3.3.36.8	**Certification:**	
3.3.36.8.1	The access control unit must comply with CE, FCC and RoHS standards.	STATE:
3.3.36.8.2	The access control unit must comply with FBI Personal Identity Verification - Image Quality Specifications.	STATE:
3.3.36.8.3	The access control unit must comply with ≤ 1 second authentication including the detection, coding and matching of data.	STATE:
3.3.36.8.4	Be accurate with a false acceptance rate of down to 10^{-8} level.	STATE:
3.3.36.8.5	The Access Control System must be able to integrate with a range of software systems including at least the CCTV system, SAPS internal systems, (Persal) and E-natis.	STATE:
3.3.36.9	**Software:**	
3.3.36.9.1	Control software to be included into the bid, including enrolment & management of systems.	STATE:
3.3.36.9.2	Integrate into existing Windows based systems	STATE:
3.3.36.9.3	Training of personnel to be included into the bid	STATE:
3.3.36.9.4	Multimode finger vein and finger print identification technology to be added to certain units identified for high security access portals	STATE:
3.3.36.9.5	Operate as stand-alone or network based units	STATE:
3.3.36.10	**The units must small and compact typical dimensions of:**	
3.3.36.10.1	≤ 220 x 300 x 100 mm	STATE:
3.3.36.10.2	Weight of ≤ 2 kilograms for outside mounted units.	STATE:
3.3.36.10.3	Weight of ≤ 1 kilograms for inside mounted units.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.36.10.4	Specialized indoor units weighing ≤ 1 kilograms.	STATE:
3.3.36.10.5	The access control system must be installed taking into account that all cabling for power and IP networks are part of the design submitted.	STATE:
3.3.37	**Power supply:**	
3.3.37.1	A backup power supply must be included into the design. The power supply must be compact as to limit its use of space.	STATE:
3.3.37.2	The backup power supply must enable the system to operate for at least 4 hours during power failures.	STATE:
3.3.37.3	The system must be linked to any site Uninterruptible Power Source (UPS) or generator, in addition to the backup power supply. This will enable the system to make use of a variety of power supplies for operations.	STATE:
3.3.37.4	The system controls must integrate into the full security system of each site. The access control data must be integrated into CCTV data and all other data to be stored as event information.	STATE:
3.3.37.5	The control software must include verification modules to ensure reliability.	STATE:
3.3.37.6	The access control system must be designed with an independent computer control system.	STATE:
3.3.37.7	The computer control system must be linked to the security system of the site for centralization of data.	STATE:
3.3.37.8	The finger print access software must be capable of linking to the SAPS PERSAL system to verify that personnel are still active on the PERSAL system and only allow access to verified personnel.	STATE:
3.3.38	**Bid Evaluation process:**	
3.3.38.1	Bidders must submit bids in writing and must respond to all requirements contained in the specification.	STATE:
3.3.38.2	Evaluate will be conducted on all written responses for mandatory and technical requirements and non-compliant bids of short list of bidders will be disqualified.	STATE:
3.3.38.3	This short list of bidders must be required to submit samples of equipment offered for evaluation and must demonstrate the functioning of equipment to SAPS for testing of equipment performance. The SAPS may retain the samples of the equipment offered by the successful bidder as part of evidence of quality offered and may retain such samples for the full contract duration.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.38.4	The demonstration must be done at a site selected by SAPS that must be not be an installation site. Only the successful bidder must be granted access to the installation sites to finalise design after complying with security clearance requirements.	STATE:
3.3.38.5	The SAPS will disqualify bids where the equipment performance is below requirement specification.	STATE:
3.3.38.6	The SAPS will evaluate the security clearance of bidders and will disqualify bidders where security clearance requirement is not complied with.	STATE:
3.3.39	**Delivery of items and services ordered:**	
3.3.39.1	The successful Bidder must support the SAPS in its process of proper administration of the deliverables acquired by the SAPS in this contract.	STATE:
3.3.39.2	The Bidder must survey all installation sites and must provide SAPS with a written bill of materials, site plans and services for each site with complete descriptions of each line item that is to be used in these systems.	STATE:
3.3.39.3	The Bidder must participate is a process to support SAPS in the item codification of each item such the items are all identified in terms of SAPS accounting systems for purposes of asset monitoring prior to the order for any specific installation being issued.	STATE:
3.3.39.4	The Bidder must deliver all hardware procured for use in the project to a delivery site identified by SAPS for capturing of all hardware items on SAPS asset accounting systems prior to system installation.	STATE:
3.3.39.5	The Bidder must complete delivery of all items within a maximum of 6 weeks or a shorter period as will be consulted with the Bidder after an order was issued.	STATE:
3.3.39.6	The Bidder must provide transport of all items captured on the SAPS asset accounting system to the final installation site for the equipment ordered.	STATE:
3.3.39.7	The SAPS delivery address will be in the same metropolitan or municipal area as the final installation site.	STATE:
3.3.39.8	Where SAPS does not have storage available, the bidder must provide safe storage of equipment in the same metropolitan or municipal area as the final installation site.	STATE:
3.3.39.9	At all sites the central operational equipment will be installed and commissioned such that cameras installed can be also be commissioned and tested during the installation period.	STATE:
3.3.39.10	All work will be done under SAPS supervision for purposes of security of the identified SAPS sites that are included in the scope of this project and detailed in the attached parts of this document.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
3.3.39.11	The Bidder must prepare and submit a Project Plan for the rollout per site after site survey and design is completed.	STATE:
3.3.39.12	The Bidder must appoint a project team of appropriately qualified persons including electrical engineer, electronic engineer and further professionally qualified personnel to ensure efficient execution of the projects in accordance with specification.	STATE:
3.3.39.13	In all work done inside SAPS premises, the Bidder personnel must wear personal protective clothing bearing company identification as well as identification of the person. Characters providing company identification must be at least 40mm high and personal identification must be readable on CCTV footage.	STATE:
3.3.39.14	During all work done inside SAPS premises, the Bidder personnel must hand in all multimedia devices at SAPS Site Security offices. On-site installation communications must be conducted on point to point radio communications provided by the Bidder.	STATE:
3.3.40	**Financial Guarantee:**	
3.3.40.1	Bidders must be required to provide a performance guarantee to the SAPS in the form of a cash deposit or a certified bank guarantee to the value of 10% of the total accepted bid value. Bidders must attach to the bid document, proof that they will be able to provide a performance guarantee.	STATE:
3.3.40.2	The successful bidder must submit the financial guarantee to SAPS before any payment for services rendered or goods delivered will be made by SAPS.	STATE:

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UNIVERSAL SPECIFICATION FOR PROVISION OF MAINTENANCE SERVICES AND COMPONENTS FOR CCTV AND ACCESS CONTROL SYSTEMS

SCOPE OF THE REQUIREMENT

This specification calls for the supply of maintenance services, components and accessories required for the maintenance and support of the product procured under the primary contract. After the warranty period of the procurement contract the SAPS requires goods and services to sustain effective maintenance and support for the minimum life expectancy of the product. The SAPS requires a contract for the provision of maintenance services and support components and accessories that will ensure that the SAPS investment in the procurement of the product delivers the effective functioning of the product over the full intended life of the product. The establishment of the procurement contract is thus dependent upon the availability and cost effectiveness of maintenance and support services, components and accessories over the planned life of the product. The SAPS thus reserves the right to reject an offer of a product where an acceptable and cost effective offer of maintenance and support services, components and accessories is not available at the time of evaluation.

This specification calls for the provision of maintenance services, components and accessories for any electronic product offered for sale to the SAPS. Bidders are required to submit a comprehensive maintenance, support and components supply offer, including all components of the offered product, and to provide any component of the offered product to the SAPS for a minimum life cycle of the product of at least five years as default contract period.

Bidders must be responsible for the delivery of the above mentioned maintenance and support services, components and accessories as outlined in this document for Supply Chain Management, Telkom Towers-North Towers and Crime Intelligence - Erasmuskloof. For each project covered under the established contract, an inventory of items/ systems maintained must be compiled. The scope of items/systems in respect of which this bid invitation is issued will be attached.

This requirement is for a contract after warrantee period that must be specified in the specification and must as default ensure a minimum contract period of five years including installation and commissioning. **Note that quantities required by the SAPS cannot be guaranteed**

DOCUMENT FORMAT

This document is divided into four (4) subsections viz.

4.1. Completion of Bid documents,
4.2. General Requirements
4.3. Detailed Requirements
4.4. Appendixes

IMPORTANT NOTICE

Bidders attention is drawn to the bid conditions as specified in section 1 of this document and specifically to paragraph 4.1.

Bidders must strictly follow the guidelines specified in section 1, to ensure that the completion of the bid document complies in all aspects with the requirements of the SAPS.

Disregarding this notice and the guidelines as specified in section 1, will have the result that the SAPS will not consider and evaluate the bidder's offer.

Bidder's are also requested to complete the documents and supply all information to the best of their ability as requested by the SAPS in this document.

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	DESCRIPTION	COMPLY / DO NOT COMPLY
4.	**BID CONDITIONS**	
4.1.	**Completion Of Bid Documents**	
4.1.1.	Bidders must explicitly state either "Comply" or "Do not Comply" regarding all the requirements outlined in this document, except where otherwise stated. Bidders' must avoid terms such as "yes" , "no" , "noted" , "accepted" , "as specified" , "see attached letters" etc.	STATE:
4.1.2.	Whenever technical parameters are specified as requirements, bidders must state, besides the terms according to section 1.1 above, also the numerical value(s). Numerical values must be stated in the same units as the units of the technical parameters specified.	STATE:
4.1.3.	Bidders must make sure that the values specified are not in conflict with the values found in the technical documentation accompanying the bid reply.	STATE:
4.1.4	**Scheduling Of Items - Appendix A**	
4.1.4.1	The bid documents must include detailed lists of all items offered. All items that are included with the bidder's offer must be listed separately in an APPENDIX clearly labelled APPENDIX A - PART # 1, "Original parts of product/service". All items that are offered as an option(s) must be listed separately in another APPENDIX clearly labelled APPENDIX A - PART # 2, "Alternative equivalent parts for product".	STATE:
4.1.4.2	These two appendices must be compiled by the bidder, in a table format with the following columns:	
	a) Item number,	STATE:
	b) Item name,	STATE:
	c) Item description,	STATE:
	d) Manufacturers name and part/code number of item,	STATE:
	e) International ICN code if available,	STATE:
	f) Quantity of the item,	STATE:
	g) Item price including VAT, and	STATE:
	h) Total price including VAT.	STATE:
4.1.4.3	These appendices must be thoroughly and accurately completed.	STATE:
4.1.5	**Track Record - Appendix B**	
4.1.5.1	In order to establish whether the bidder has a proven track record in this field, details of users in the RSA to whom the bidder have successfully supplied	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
	the services and equipment offered, must be submitted with the bid documents for verification by the SAPS.	
4.1.5.2	The track record must be compiled by the bidder and labelled "Appendix B". The details of previous and current clients must include at least the following:	
	a) Name of Client/Organization,	STATE:
	b) Full Postal and Street Address,	STATE:
	c) Telephone and Facsimile numbers, e-mail address	STATE:
	d) Contact Person,	STATE:
	e) Type and quantity of equipment supplied,	STATE:
	f) Date when contract was finally completed and equipment was handed to client, and	STATE:
	g) Value of the contract in current Rand value.	STATE:
4.1.5.3	The bidder must clearly indicate against each previous contract with a client whether the equipment offered is exactly similar to the equipment called for in this specification or whether the equipment offered differs from the equipment called for and the extent of the difference.	STATE:
4.1.6	**Configuration Of Bid Reply**	
4.1.6.1	Offers submitted by a bidder must be neatly bound in a file folder, complete with an index page to enable the SAPS to ensure that all information was received. Offers submitted must include at least the following:	STATE:
4.1.6.2	The completed technical specification with the accompanying bid documents.	STATE:
4.1.6.3	Appendixes "A"and"B" completed by the bidder.	STATE:
4.1.6.4	Appendix "A" part" 1" and Appendix "A" part "2" Must also be submitted in soft copy in Microsoft Excel format in a version compatible with SAPS computer equipment.	STATE:
4.1.6.5	Detailed technical specifications of all components offered.	STATE:
4.1.6.6	All additions to the bid document i.e. Price list, Brochures etc. must be neatly bound in the file folder and these additions must be indicated on the index page as Appendices. Each additional document and/or list must be listed separately in the index.	STATE:
4.1.7	**Assumptions Made By Bidders**	
4.1.7.1	No assumptions must be made by bidders in their bid reply.	STATE:

	DESCRIPTION	COMPLY / DO NOT COMPLY
4.1.7.2	It must be the bidder's responsibility to obtain all information required to submit a comprehensive bid that makes provision for all requirements. In the event of any uncertainties regard in the interpretation of the requirements or specifications, the bidder must clarify such uncertainties with the SAPS.	STATE:
4.2.	**GENERAL REQUIREMENTS**	
4.2.1	**Scope Of The Requirement**	
4.2.1.1	The bidder must maintain all items / systems in a functional state at all times.	STATE:
4.2.1.2	Equipment and systems down time must be minimized and must be controlled to ensure that such down time does not impact SAPS use of the equipment / systems in a material way.	STATE:
4.2.1.3	The bidder must maintain and repair the equipment and systems within the classification as provided by SAPS. The SAPS will classify systems or faults in the following classes, and down time per equipment / system will be limited in accordance with the classification of the equipment.	STATE:
4.2.1.4	Any fault that causes SAPS to lose the functioning of a system to such as degree that the system no longer satisfies its operational purpose must be classified as a mission critical fault and must be repaired within 4 hours after report of the fault is submitted to the bidder.	STATE:
4.2.1.5	Any fault that causes SAPS to lose partial operational functioning of a system to such as degree that the system no longer fully satisfies its operational purpose must be classified as an operational fault and must be repaired within 24 hours after report of the fault is submitted to the bidder.	STATE:
4.2.1.6	Any fault that causes SAPS to lose only non-operational functioning of a system to such as degree that the system still fully satisfies its operational purpose must be classified as a minor fault and must be repaired within 7 days after report of the fault is submitted to the bidder.	STATE:
4.2.1.7	The bidder must execute all required regular preventive maintenance activities as required to maintain the items / systems to functional condition according to the prescribed acceptance test procedure for the items / systems contracted to be maintained.	STATE:
4.2.1.8	The bidder must keep stock of components and accessories as detailed in this document, comprising of all components of the electronic equipment maintained by the bidder to the SAPS such that all components required for the maintenance and repair of the supplied equipment can be provided from this stock of components.	STATE:
4.2.1.9	The bidder must monitor the components consumption and must replenish the stock of components such that the stock of components is maintained over the life cycle of the supported electronic equipment. Stock levels must	STATE:

	DESCRIPTION	COMPLY / DO NOT COMPLY
	be adjusted per item over the product life cycle according to consumption rate to ensure that out of stock conditions are minimized.	
4.2.1.10	The bidder must ensure that all components required by SAPS are delivered within the periods as specified above, also in cases where the repairs are undertaken by SAPS internal technical staff.	STATE:
4.2.1.11	The equipment to be maintained must be tested against standard formal test methods applicable to the equipment under maintenance and against the Acceptance Test Procedures developed for systems during the system build contract.	STATE:
4.2.1.12	Where internationally standardized test methods exist, bidders must use these standard test methods. Where custom products are supported and maintained or where complete systems are supported and maintained for which standardized test methods do not exist, a test method and test procedure must be developed by an appropriately qualified technician or engineer and the test method and procedure must be submitted to SAPS for approval.	STATE:
4.2.1.13	The bidder must correct any defect / fault within the contractually determined repair period and must demonstrate that the repair is completed by executing the normal standard equipment / system acceptance test procedure and recording test results. SAPS will oversee the testing at its discretion.	STATE:
4.2.2	**Maintenance and Support Service Concept.**	
4.2.2.1	The bidder must compile a structured maintenance program for the equipment / system to be maintained and must submit the program with the bid on or before the date and time of bid closure.	STATE:
4.2.2.2	The structured maintenance program must consist of a manual of maintenance procedures to be executed for each sub system in the system to be maintained.	STATE:
4.2.2.3	The bidder must provide a comprehensive library of documentation including complete maintenance manuals for each piece of equipment in the system as well as for the complete system.	STATE:
4.2.2.4	The bidder must execute the regular maintenance program as scheduled in the structured maintenance program.	STATE:
4.2.2.5	The bidder must identify the frequency of scheduled maintenance for each equipment item in the system, and must execute the scheduled maintenance as planned in the structure maintenance program.	STATE:
4.2.2.6	As a minimum standard the bidder must execute a full systems acceptance test on the total system at least once every six months for the duration of the maintenance and support contract period. This test must for purposes of the contract be known as the Bi-Annual Acceptance Test Procedure (ATP).	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
4.2.2.7	The bidder must correct any defect detected during the bi-annual ATP as per repair period specified for faults reported by the SAPS in accordance with the fault classification as detailed in this specification.	STATE:
4.2.2.8	The bidder must thus provide a structured maintenance and support service with regular preventative maintenance on all items in the system and will provide a repair service for any faults that are identified in this process or that are identified and reported to the bidder by SAPS.	STATE:
4.2.2.9	The bidder must equip any appropriately qualified technicians of SAPS that SAPS choose to avail with all required product specific maintenance documentation and product specific training such that SAPS technicians will be able to continue the maintenance after the contract period or in the event of the bidder being unable to provide maintenance for any reason.	STATE:
4.2.2.10	Documentation and training that will be provided to SAPS internal technicians must in each and every way be the same and equal to documentation and training that the supplier provides/has provided to the bidder's technical support personnel that are utilized for the maintenance to be provided on this bid. SAPS Technicians that are provided by SAPS will be appropriately qualified with an accredited diploma in electronics.	STATE:
4.2.2.11	Non-compliance to the above-mentioned delivery date will result in the enforcement of penalties in terms of General Conditions of Contract.	STATE:
4.2.2.12	The bidder must identify all components that are mission critical for the maintenance of core functionality of the system and must ensure that mission critical components must be delivered on the day that it is ordered by SAPS.	STATE:
4.2.3	**Documentation:**	
4.2.3.1	Detailed technical specification.	STATE:
4.2.3.2	Detailed circuit diagrams and PC Board layouts.	STATE:
4.2.3.3	A detailed technical description of the operation of the equipment and systems to be maintained.	STATE:
4.2.3.4	A complete list of components, including manufacturers part numbers, component numbers and descriptions. International ICN codes for components must be included, if available.	STATE:
4.2.3.5	A recommended component parts list must be included by the bidder.	STATE:
4.2.4	**Quality And Standards**	
4.2.4.1	All materials and equipment supplied on this contract must be new and the best of the respective kind.	STATE:
4.2.4.2	All materials and equipment supplied must fully comply with the requirements laid down in this specification and the latest editions of the relevant SABS,	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
	BS, CCITT, EIA, ISO, DIN and CISPR specifications or as otherwise specified.	
4.2.4.3	Apart from any other right which the SAPS may have in terms of the contract, it must have the right to set the standard and to accept or reject part of the specified equipment depending on the quality of materials and workmanship offered.	STATE:
4.2.4.4	The Bidder must be notified if the quality of material and/or workmanship is not acceptable. In such an event the Bidder must replace the specific part or repair it to the satisfaction of the SAPS.	STATE:
4.2.5	**Invoicing And Packaging**	
4.2.5.1	The successful bidder must itemize and describe, individually all accessories, equipment and documents on the relevant delivery notes and invoices when delivering / maintaining the equipment/ systems. No statement such as, "as per specification" will be accepted on a delivery note.	STATE:
4.2.5.2	These delivery notes must be delivered to an officer of the Technology Management Services Division of the SAPS by prior appointment.	STATE:
4.2.5.3	Each item must be packaged in its own single container.	STATE:
4.2.6	**Warranty**	
4.2.6.1	All components and accessories, supplied by the bidder to the SAPS must be warranted in terms of GCC.	STATE:
4.2.7	**Repairs Under Warranty**	
4.2.7.1	All components replaced with new components in terms of this maintenance and support contract must carry a one year warranty as a new item.	STATE:
4.2.7.2	All items repaired under this maintenance and support contract must carry a 90 day warranty as a repaired component under this maintenance and support contract.	STATE:
4.2.8	**Sub-Contractors**	
4.2.8.1	Bidders are allowed to make use of subcontractors. Name(s) of subcontractors used for this bid must be submitted to the SAPS and must be submitted in the bid.	STATE:
4.2.8.2	The SAPS will not deal with the subcontractors, but only with the bidder. The bid accountability will stay with the bidder and cannot be allocated to the subcontractor. The SAPS will hold the bidder accountable for any delays, non-compliance, etc. on the subcontractor's part.	STATE:
4.2.8.3	The subcontractor is bound by the same requirements as the bidder. The Subcontractor must also comply with all the requirements of this document.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
DESCRIPTION		COMPLY / DO NOT COMPLY
4.2.9	**Training:**	
4.2.9.1	The following training must be provided by the successful bidder:	
4.2.9.1.1	Detailed technical training must be provided for selected technical personnel of the SAPS, at the SAPS training facility or a convenient and suitable location of the bidder and at the cost of the successful bidder.	STATE:
4.2.9.2	The bidder must declare and submit samples of any training material available for the product offered to the SAPS.	STATE:
4.2.9.3	Cost of any training or relevant material offered must be specified by the bidder and included in the bid price and stated in Appendix A scheduling of items.	STATE:
4.2.9.4	The training course must cover the following curriculum in modular / outcome based format:	
	a) Block diagrams for fault-finding and installation.	STATE:
	b) Basic fault-finding to module level.	STATE:
	c) Common faults.	STATE:
	d) Assembly & disassembly of the equipment/system.	STATE:
	e) Software settings and alignment.	STATE:
	f) Operation and testing.	STATE:
	g) Installation.	STATE:
4.2.10	**Training Of Users:**	
4.2.10.1	The bidder must provide user manuals for the equipment to be maintained and supported.	STATE:
4.2.10.2	The bidder must present user training on any equipment or system where the system complexity is such that mere scrutiny of the user manual does not enable effective use by the users.	STATE:
4.2.10.3	The bidder must provide remote assistance of users in use of the equipment by means of a telephonic service that provides access to equipment and systems experts skilled in the use of the equipment or systems supported.	STATE:
4.2.10.4	The user training and support must be provided in the English language.	STATE:
4.2.10.5	User manual samples must be submitted with the bid on or before the date and time of bid closure.	STATE:

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	DESCRIPTION	COMPLY / DO NOT COMPLY
4.2.11	**Components Holding Requirement**	
4.2.11.1	The bidder must keep a buffer stock of components adequate to ensure that the maintenance and support of the system in accordance with the specification is achievable.	STATE:
4.2.11.2	The bidder must identify critical components of the system and provide to SAPS an inventory of critical components kept in stock in order to enable support of the mission critical systems in accordance with the specification.	STATE:
4.2.11.3	The bidder must facilitate inspections of these components bi-annually to follow the bi-annual ATP.	STATE:
4.2.12	**Records To Be Kept**	
4.2.12.1	For each component part, the price as offered in the bid, the replenishment price as determined at last requirement, and the number and dates of consumption a record must be kept.	STATE:
4.2.13	**Bidding**	
4.2.13.1	The bidder must quote in the bid reply a profit margin for the management of the stock of components.	STATE:
4.2.13.2	The bidder must quote the prices of components as available on date of the bid reply, including the margin and all taxes and duties.	STATE:
4.3	**DETAILED REQUIREMENT**	
4.3.1	**Scope Of The Requirement**	
4.3.1.1	The bidder must compile a price schedule covering the following categories of items that may be required in the maintenance and support and utilization of the product that the bidder is offering to the SAPS.	STATE:
4.3.2	**Components For The Product Supplied To SAPS:**	
4.3.2.1	The bidder must provide all components of the product that could potentially be replaced in any repair process. This would include all modules, all mechanical components including casings and all components that could be unplugged or de-soldered from PC boards.	STATE:
4.3.3	**Programming And Support Software For The Product Supplied To SAPS:**	
4.3.3.1	The bidder must provide all software components required for programming / configuration or fault finding of the product. These software components must be fully functional and must enable SAPS software access for programming and support of the equipment for the full life expectancy of the equipment.	STATE:
4.3.4	**Programming And Support Hardware For The Product Supplied To SAPS:**	

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	DESCRIPTION	COMPLY / DO NOT COMPLY
4.3.4.1	The bidder must provide all programming and support hardware available for the offered product such as programming interfaces, cables and test and measurement interfaces required to test the product in a service or test laboratory environment.	STATE:
4.3.5	**Accessories For The Product Supplied To SAPS:**	
4.3.5.1	The bidder must provide a comprehensive set of user accessories as defined in the specific SAPS requirement specification.	STATE:
4.3.6	**Alternative Components For The Product Supplied To SAPS:**	
4.3.6.1	The bidder must provide all alternative components such as alternative battery technologies available, alternative equivalent components where original components are substituted or where equipment modifications or upgrades are available.	STATE:
4.3.6.2	Alternative Accessories for the product supplied to SAPS.	STATE:
4.3.6.3	Training Services for the training of support technicians for the product supplied to SAPS.	STATE:
4.3.6.4	The bidder must provide all software upgrades available for the products/systems offered to SAPS for the full period of the maintenance and support contract.	STATE:
4.3.6.5	The bidder must provide all hardware upgrades required for the system to be kept current for the full contract period.	STATE:

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TECHNICAL EXTRACT FROM SOUTH AFRICAN POLICE SERVICE CABLING STANDARD FOR IT CABLING

1. Floor Plans

1.1. If floor plans are available on Planning (NWChange.saps.gov.za) in Microsoft Visio, it must be made available to the vendor, and this floor plan must be used by the vendor by adding detail to address the new requirement.

1.2. Where no floor plan is available a new preliminary floor plan must be provided by the vendor.

1.3. Floor plans must indicate the following:

1.4. Physical routes;

1.5. pit/manhole placement and size;
1.6. pole placement and size;
1.7. route sizes;
1.8. distances between manholes and/or poles;
1.9. building entries;
1.10. Floor plans indicating location and location of the Telco infrastructure, numbers of cabinets, all data, voice, dedicated and normal power outlets.
1.11. Data backbone layout - Indicating the physical cable layouts between buildings or floors, as well as cable types and sizes.

1.12. The floor plan must use the following legend as stipulated in **Figure 1**

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	TELEPHONE OUTLET
	DATA OUTLET
	NORMAL SINGLE SWITCHED ELECTRICAL SOCKET OUTLET
	DEDICATED SINGLE SWITCHED ELECTRICAL SOCKET OUTLET
	NORMAL DOUBLE SWITCHED ELECTRICAL SOCKET OUTLET
	DEDICATED DOUBLE SWITCHED ELECTRICAL SOCKET OUTLET
	DEDICATED SINGLE SWITCHED UPS ELECTRICAL SOCKET OUTLET
	DEDICATED DOUBLE SWITCHED UPS ELECTRICAL SOCKET OUTLET
	DATA/VOICE CABINET
	SERVER CABINET
	ELECTRICAL DISTRIBUTION BOARD
	ALUMINIUM POWER POLE COMPLETE WITH 4X NORMAL ELECTRICAL OUTLET 4X DEDICATED ELECTRICAL OUTLET 4X DATA OUTLET 4X TELEPHONE OUTLET
T	TELEPHONE DISTRIBUTION PANEL
....	MS1 POWER SKIRTING
	MS2 POWER SKIRTING
	PIPE
———	EGA TRUNKING
- - - - - - - -	CABLE ROUTE

Site drawing legends

2. Quotation documentation

2.1. The quotation must include the bill of materials including pricing.

2.2. The preliminary floor plan provided to SAPS must be in Visio;

3. Pre installation site visit documentation.

3.1. The preliminary floor plan must be signed by the unit commander or duly authorised thereto and SAPS. Any changes to the layout of the floor plan must be negotiated and must only be done if there are null (zero) cost implication to SAPS.

4. Post installation documentation

4.1. Site Sign off documentation required on-site in a file consisting of the following:

4.2. Pre-sign-off checklist completed by vendor.

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