

TENDER DATA

Project title:	Appointment Of A Service Provider To Supply, Deliver, And Commission System Upgrade Using Dvb Sis (Single Illumination System) On The Sentech Digital Terrestrial Television (Dtt) Network With Multiple Operators And Regions And Direct-To-Home (Dth) Linking Networks For A Period Of Three (3) Years.
Bid no:	SENT-026-2024-25

1. BACKGROUND

Sentech is a state-owned company and is the largest broadcasting signal distributor in South Africa. Sentech is a licensed Electronic Communications Network Service provider in South Africa. It currently operates many telecommunication networks for Satellite, Television, Radio, Internet and more. As such, Sentech is a global enabler of broadcasting and digital content delivery.

SENTECH's proprietary DTH Compatible System has reached its End of Life and Support. As a result, Sentech seeks to replace the system for its DTH and DTT platforms, which must be DVB-T2 adaptable for its Transmitter sites and end-user devices. The system must also be interoperable with the Set-Top Box Manufacturer's Receivers and middleware, conforming to DVB or other broadcast proprietary standards.

Sentech's intention with this tender advertisement is to select a preferred supplier for the DVB SIS system based on linking via satellite or, where applicable, via terrestrial Fibre to its transmitter sites, DTH, DTT STBs and Professional Satellite Receivers. Sentech intends to establish a long-term supply relationship with the preferred supplier for three (3) years. The services will be delivered in phases and are required at SENTECH Radiokop, SENTECH NASREC and DTT Transmitter sites.

2. SUBMISSION OF BIDS and CLOSING

- 2.1 This Bid closes on the date and time stipulated on the Notice and Invitation to Bid (SBD1). Bids can be submitted electronically via the eTender Portal and/or by hand to the tender box at Sentech Offices, Octave Road, Radiokop Ext 3, Honeydew, Johannesburg.
- Bidders that opt to deposit their bid documents in the tender box must do so on or before the closing date and time, during working hours only (08:30-15:30). No late submissions will be accepted.
 - Bidders who opt to submit via the Sentech eTender Portal ("the eTender Portal") are advised that the eTender Portal has a files size limit of 30MB. Bidders must upload their tender documents timeously. The eTender Portal is available 24hrs a day. No late submissions will be accepted.
 - It is incumbent on the bidder to ensure that their bids are submitted timeously via the selected method before the closing date and time. Sentech will not take any responsibility of any incomplete submissions or late tenders, for any reason whatsoever.
 - Telegraphic, telephonic, telex, facsimile, e-mail and late Bids will not be accepted.
- 2.2 This is a two-envelope system for Bid Evaluation. Bidders must submit their proposal and all supporting documentation in a sealed envelope, clearly marked as follows:
- For manual submissions, Envelope One must consist of "Original Technical Proposal together with a soft copy in PDF format of an electronic medium e.g. USB etc. The soft copy will consist of a single

PDF document containing the complete response. The envelope must contain all information and documents relating to the Bid. (Refer to list of returnable documents).

- b) No Financial Information must be included in Envelope One.
- c) Envelope Two "Original Financial Proposal" (Contract Date and Pricing schedule/schedule of rates as applicable) together with 1 copy of "Financial Proposal" together with a soft copy in PDF format of an electronic medium e.g. Compact Disk (CD), USB etc. The soft copy will consist of a single PDF document containing the complete Financial Proposal.
- d) Bidders are required to place the sealed Envelope One together with the sealed Envelope Two into one sealed envelope or container. The sealed envelope or container must be marked with the following information:

For Attention:

- HEAD OF SUPPLY CHAIN MANAGEMENT
 - BID REFERENCE NO: ##
 - TECHNICAL AND FINANCIAL PROPOSALS
 - INSERT CLOSING DATE AND TIME
 - BIDDER'S NAME AND ADDRESS
- e) Bidders that combine their Technical Proposal with the Financial Proposal (or any financial information) will be automatically disqualified and not be evaluated further.
 - f) The financial proposal will only be opened and evaluated should the technical proposal be found to be responsive, being that the technical proposal has met the minimum technical evaluation criteria that are set out in the Bid Documents.
 - g) The Bidders shall insert a table of contents and bind (ring bind or similar method) the proposal documents and verify the page numbers, as Sentech will not accept any liability with regard to any disputes arising from pages that are missing or duplicated in the aforementioned documents.
 - h) Bidders are required to complete and sign all the returnable documentation (refer to list of returnable documents) and initial all pages, drawings and brochures which are included in the reply as Sentech will not accept any liability with regard to any disputes arising from pages that are missing or duplicated in the aforementioned documents.
 - i) Late submissions will not be considered.
 - j) For online submissions via the e-Tender portal, submission requirements are directed by the system. Bidders must follow instructions in the Bidder's manual.

3. SIGN AND INITIAL

Bidders are required to complete and sign the Bid Forms where required and initial the bottom of all pages, drawings and brochures which are included in the submission as Sentech will not accept any liability with regard to any disputes arising from pages that are missing or duplicated in the aforementioned documents.

Only original signatures will be accepted.

4. COMPLETION OF BID DOCUMENTS

Bidders must ensure that they complete all sections of the Bid Documents as per the requirements in the Bid.

Bidders must use only the Bid documents provided by Sentech. Photocopying of the Bid document is permitted however Bidders must not retype or redraft the Bid documents.

5. COSTS OF PREPARING THE BID SUBMISSION

Bidders shall bare all costs associated with the preparation and submission of the proposals. Sentech shall under no circumstances be held responsible or liable for any costs incurred during the bidding process.

6. ADMINISTRATIVE RESPONSIVENESS CRITERIA

Bidders are required to ensure that they meet all the Administrative Responsiveness Criteria.

7. BBBEE CODES AT SENTECH

Sentech complies with the codes of good practice as prescribed by the DTI, to advance Broad Based Black Economic Empowerment.

8. SUBCONTRACTING AS A CONDITION OF BID

The successful Bidder must subcontract a minimum of _____ % of the value of the contract to _____ (specify the designated group targeted).

9. TRANSFORMATION PLAN

A transformation plan is a record of activities an entity intends to undertake to improve its BBBEE Level through Ownership, Management and Control; Skills Development; Enterprise and Supplier Development and Socio-Economic Development.

Sentech reserves the right to request a BBBEE transformation plan with clearly defined timelines and milestones if the recommended Bidder does not meet Sentech's transformation goals. These milestones must be achieved over the term of the contract. This transformation plan must be submitted within 10 working days from the written request, failing which Sentech reserves the right to withdraw its appointment of the preferred recommended Bidder.

10. LOCAL PRODUCTION AND CONTENT

In the case of designated sectors, where in the award of Bids, local production and content is of critical importance, such Bids will contain a specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.

Does this requirement fall under any designated sector as prescribed by the DTI?	Yes	No
If yes, specify the sector		
Specify minimum threshold applicable		

*Bidders must fill in the SBD6.2 for Local Content and Production

11. EVALUATION CRITERIA

The evaluation criteria are stipulated in 18 below. It is the Bidder's responsibility to ensure that it has responded to the evaluation criteria. Failure to meet the evaluation criteria will result in the Bidder not being evaluated further. Bidders must ensure that they have included all supporting documentation required to support their response to the Bid.

12. AWARD OF BID/S

Sentech may appoint one or more suppliers, in whole or in part, or not appoint any supplier/s at all, and/or cancel the bid in its entirety, at Sentech's sole and exclusive discretion, in order to satisfy various needs which may be identified, and to manage certain risks associated with the supply of goods or services specified in respect of the Bid.

13. ALTERNATIVE/SUBSTITUTE PRODUCTS

In the case of contracts and/or panels which are in excess of 12 (twelve) months, Sentech shall be entitled to consider alternative products and product upgrades during the tenure of the contract and/or panel in order to accommodate new products and upgrades in the market. Bidders are required to bring all such developments to the attention of Sentech for approval. No alternative products may be supplied without Sentech's prior written approval.

14. BRIEFING SESSION

Should there be a compulsory briefing session for this Bid, Bidders must ensure that they attend the briefing session and sign the attendance register, as non-attendance or failure to sign the attendance register will automatically disqualify a Bidder from submitting a proposal for this Bid.

All questions raised by Bidders post the briefing session will be consolidated and shared with all Bidders at least seven (7) calendar days prior to closing.

15. CLARIFICATION

Enquiries related to Bid documents may be addressed to the Bid Administrator and Supply Chain Official as stated in SBD 1 Notice and Invitation to Bid.

16. BID EVALUATION METHOD

This Bid will be evaluated as described in the table below.

# system will be followed for Technical and Price offer	1. Stage 1 – Administrative Responsiveness Evaluation All the Technical Proposals will be evaluated against the Administrative responsiveness requirements as set out in the list of returnable documents. 2. Stage 2 –Technical Evaluation # <u>Mandatory Eligibility Criteria</u> All the proposals fully compliant with the administrative responsiveness compliance criteria will then be evaluated against mandatory eligibility criteria as set out in Section 19 below. The Bidders must be fully compliant (and supply referenced Proof of compliance) to be evaluated further. <u>Functional Eligibility Criteria</u> The proposals that COMPLY with the Mandatory evaluation criteria will be evaluated against the Functional Criteria. Only the Bidders who fully comply with ALL the Mandatory Criteria will be scored against the functional evaluation criteria in section 19.2 below. Bidders who score 112 points or more out of the possible 142 points will be evaluated further. Bidders who score 112 or more points and fail to present Proof and evidence for their response to Functional criteria will not be evaluated further. 3. Stage 3- Risk Assessment All proposals fully compliant with the Mandatory and Functional Evaluation Criteria will undergo a Risk Assessment. Therefore, in the risk assessment, the Bidder must provide a sample end-to-end DVB SIS system to be tested in the SENTECH Head-End Laboratory environment. The test will verify compliance with the Mandatory Evaluation Criteria and ensure the system meets the operational requirements and can operate within the parameters of the SENTECH DTT network. 4. Stage 4 – Price and Preference Financial Proposals for Qualifying Bidders will be opened and evaluated. Bidder's financial offers and BEE certificates will be ranked according to price and preference points from the highest number of points to the lowest.
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17. ADMINISTRATIVE RESPONSIVENESS REQUIREMENTS

To be administratively responsive, Bidders must ensure that they meet all the below mentioned criteria. Bidders that do not meet all the below mentioned criteria may not qualify to be awarded the Bid. Sentech reserves its rights in respect of the below criteria.

- Complete and return all documentation stipulated in the LIST OF RETURNABLE DOCUMENTS.
- All correspondence must be in English.

- Bidders must fill in all sections of this document (where applicable).
- **BLACK INK** must be used when completing the Bid documents.
- Bidders must use only the Bid documents provided by Sentech. Photocopying of the Bid document is permitted however Bidders must not retype or redraft the Bid documents.
- All corrections must be initialled. The use of corrective fluid is strictly prohibited.
- Bidders are required to fill in and sign the Bid Forms and initial all pages, drawings and brochures which are included in the reply as Sentech will not accept any liability with regard to any disputes arising from pages that are missing or duplicated in the aforementioned documents.
- Bidders must complete an attendance register at each compulsory site meeting attended.
- Appointment of a Bidder will be subject to signing, declaration and submission of SBD 1, 3.1, 3.2, 3.3, 4, 5, 6.1, 6.2 8, and 9 depending on applicability.
- Complete and sign the Contract Data.
- Should this be a 2 envelope or 2 stage system, Bidders **MUST** separate the technical proposal from their financial proposal. The technical and financial proposals must be placed in two separate sealed envelopes.

17.1 AUTOMATIC DISQUALIFICATION

Sentech reserves the right to automatically disqualify Bidders from being awarded this Bid. The following will lead to automatic disqualification:

- Failure to submit a financial proposal, if required.
- The Bidder is or has been involved in any act of corruption or fraud or bribery or collusion or attempt to influence any employee of Sentech to award this Bid or any other Bid to it.

18. TECHNICAL RESPONSIVENESS COMPLIANCE

The Technical Evaluation will encompass evaluation of:

- Mandatory Criteria
- Functional / Technical Criteria
- Technical Risk Assessment

19. TECHNICAL EVALUATION CRITERIA

19.1 Mandatory Eligibility Criteria

The follow in criteria are mandatory to ALL BIDDERS:

No	Mandatory Eligibility Criteria	Comply Y/N?	Proof required or evidence
19.1.1	General Technical Requirements		
19.1.1.0	Did the Tenderer read the contents of Sections 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, and 2.5 in Part C3 of the Contract Data in full and not in part?		Provide a confirmation letter.

No	Mandatory Eligibility Criteria	Comply Y/N?	Proof required or evidence
19.1.1.1	System Integration The Tenderer will ensure that the supplied equipment is integrated into the head-end, uplink system and transmitters as appropriate.		Provide a reference page number in your proposal as Proof of evidence.
19.1.1.2	Support The Tenderer must commit to an SLA contract term of at least three (3) years after the warranty and guarantee software upgrades and hardware replacement.		Provide a commitment letter or a sample of the SLA Agreement. Complete Pricing in Part C2 of the Contract Data as Proof and provide a reference page number in your proposal as Proof of evidence
19.1.1.3	Support Guarantee adequate product support, software upgrades and spare keeping for ten (10) years after the warranty expiry of the last delivery of the equipment supplied.		Provide a letter of commitment and a reference page number in your proposal as Proof of evidence.

No	Mandatory Eligibility Criteria	Comply Y/N?	Proof required or evidence
19.1.2	Special Technical Requirements		
19.1.2.1	Ability to Meet Project Objectives I. Supply an off-the-shelf field-proven solution. II. Specify where the proposed solution is operationally deployed and when the equipment was put into operation. III. Capable of replacing the current DTH-compatible system without replicating content on the distribution links. IV. Demonstrate the Proof of concept and overall system stability.		Provide a confirmation letter with a reference page number in your proposal addressing each criterion point as proof of evidence.

No	Mandatory Eligibility Criteria	Comply Y/N?	Proof required or evidence
19.1.2	Special Technical Requirements		
	V. Implement the system on the production live platforms in the head-end production, Disaster Recovery, and transmitter sites.		
19.1.2.2	Compliance With DVB Specifications I. Equipment offered must comply with all applicable DVB specifications, mainly ETSI TS 102 773, EN 302 775 and ISO/IEC 13818-1. Interface to DTT exciters must be DVB-T2 MI over ASI with the option of (GbE) IP. ASI input is 188 or 204-byte packets. II. A complete list of standards and specifications to which the equipment conforms must be provided for each type of equipment offered. Specifically, the following must be supported: - Validation of T2 parameters - Full in-band control of T2 modulators (L1 signalling) - Full support of BB frame modes - Static and dynamic PLP handling - Compatible with FEF - Null Packet Deletion - In-band signalling (ISSY signalling) III. The interface to Head-End Multiplexers and Satellite Modulators must be DVB-MPEG-TS over IP with Multicast (UDP or RTP options) of 188 or 204-byte packets.		Attach evidence (manuals, user guides, datasheets, etc.) and provide a reference page number in your proposal addressing each criterion point as Proof of evidence.

No	Mandatory Eligibility Criteria	Comply Y/N?	Proof required or evidence
19.1.2	Special Technical Requirements		
	<i>The definition of these standards required by Sentech, at a minimum, can be found in Annexure C of the Contract Data.</i>		
19.1.2.3	Conformance to ETSI TR 101 290 All transport streams the DVB-SIS equipment generates must conform to ETSI TR 101 290 ver. 1.3.1, including T2MI validation, at minimum.		Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.
19.1.2.4	Equipment Interface TS inputs and outputs for transmitter site equipment shall be ASI. Additional GbE may be indicated as an option. NB: It is recommended and advantageous to supply HDc (High-Density Chassis) with spare slots where connection interfaces or modules can be field upgraded.		Attach evidence (manuals, user guides, datasheets, etc.) and provide a reference page number in your proposal as Proof of evidence.
19.1.2.5	Deterministic Transport Streams The system must produce deterministic TS or T2-MI streams to operate over Single-Frequency Networks (SFNs) and Multi-Frequency Networks (MFNs).		Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.
19.1.2.6	PLP Service Selection The system should select services from the DTH streams, allocate them to different PLPs and perform, update and process PSI/SI for the services.		Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.
19.1.2.7	DVB-SIS compliant system The tenderer must supply a DTH-compatible system that is compliant with DVB-SIS standards and interoperable with other vendors. See		Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.

No	Mandatory Eligibility Criteria	Comply Y/N?	Proof required or evidence
19.1.2	Special Technical Requirements		
	<i>Annexure E of the Contract Data for a list of vendors and equipment models.</i>		
19.1.2.8	Standardised DTT Multiplex system The vendor-supplied system shall rebuild the DTT Multiplex based on standardised DSACI and Framing & Timing packet.		Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.
19.1.2.9	System Functional Support The system must support: I. Provision of in-band control and signalling II. Provisioning and generation of DTT configuration and SFN timestamp information. III. Provisioning in-band service description to assign to the resulting DTT Multiplexes and related SI for update at transmission sites. IV. Simulcast DTH and Terrestrial DTT services. V. Production of DTT multiplexes from DTH Services where the DVB-SIS metadata and information are transparent to DTH receivers. VI. Setup the system for DTT regional service broadcasting VII. DTT Synchronised SFN cells between C-Band and Ku-Band with no timing drifts. VIII. Integration to the existing head-end equipment		Provide data sheets or full technical details and a reference page number in your proposal addressing each criterion point as Proof of evidence.
19.1.2.10	Regionalised Content		Provide data sheets or full technical details and a reference page number in your proposal addressing

No	Mandatory Eligibility Criteria	Comply Y/N?	Proof required or evidence
19.1.2	Special Technical Requirements		
	I. Provide a detailed description of how content per PLP will be defined, including management of regionalised content. II. it must be possible to substitute regional content and process SI updates at a transmitter site. III. The same regional content must be substituted synchronously at each transmitter site within a particular SFN. IV. Assigning the regional content to a separate PLP must be possible.		each criterion point as Proof of evidence.
19.1.2.11	Support for MPLP The system must be capable of supporting at least 8 PLPs per multiplex.		Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.
19.1.2.12	Redundancy I. Fully redundant equipment for the SIS system must be proposed to avoid TV blackouts. II. Redundancy between the C-band primary and Ku-band secondary must be provided at the transmitter sites. The transmitter exciter performs redundancy switching for two multiplexes. III. Redundancy between the primary and secondary GbE I/O ports from the Primary and Secondary Chassis must be provided. The Head End MPEG-TS Multiplexers perform redundancy switching of the Broadcaster's streams.		Attach evidence (manuals, user guides, datasheets, etc.) and provide a reference page number in your proposal addressing each criterion point as Proof of evidence.

No	Mandatory Eligibility Criteria	Comply Y/N?	Proof required or evidence
19.1.2	Special Technical Requirements		
	IV. Head-end redundancy switching must be automatic and seamless, with no manual intervention. A process must be specified if a separate management system is required to perform this function.		
19.1.2.13	DVB PSI/SI Table Cycler Editor Supply or embed an integrated editor, scheduler, and table cycle spooler for DVB SI (Service Information) and MPEG PSI (Program Specific Information) tables in the system code. Note: The PSI/SI table cycles are determined by the agreed DTT SLA between SENTECH and the broadcasters. See <i>Annexure D of the Contract Data</i>.		Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.
19.1.2.14	Service ID mapping and PID Filtering As part of the DTH-DTT conversion/adaptation, the system must support: I. Service IDs or program numbers mapping, including assignment and referencing in the PSI tables PAT and PMT. II. DVB CAS, ECM PID filtering, and options for the EMM PID pass-through mechanism, with the ability to remove or maintain the descriptor references in the CAT and PMT tables. Note: The PSI tables, PAT, PMT and CAT are common to DTH and DTT. The DTT and DTH DVB SI tables will be distributed in parallel over Satellite. DTT SI tables must be transparent to the DTH viewers.		Provide data sheets or full technical details and a reference page number in your proposal addressing each criterion point as Proof of evidence.

No	Mandatory Eligibility Criteria	Comply Y/N?	Proof required or evidence
19.1.2	Special Technical Requirements		
19.1.2.15	Table Generator I. Generate and limit the MPEG PSI tables PAT, PMT, and CAT to the services allocated to each PLP TS accordingly. II. Each PLP must select the correct and appropriate SI tables NIT, BAT where applicable, SDT (actual and other), EIT (present/following and schedule actual and other) and TDT/TOT along with their descriptors from the TS ID embedded in the Head-End MPEG streams. Note: SENTECH will define the actual and other SI tables for the DTT network's national and regional groups. Note: If needed, the tenderer can submit an alternative solution with a detailed explanation of the extent to which Sentech's requirements can be met and their implications.		Provide data sheets or full technical details and a reference page number in your proposal addressing each criterion point as Proof of evidence.
19.1.2.16	NIT updates for content regionalisation At the transmitter site and as part of content regionalisation and SI updates, the system must update NIT tables per transport stream (i.e. PLP) in each region or transmission site to limit the scanned transport streams and related information to that region. The system must use		Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.

No	Mandatory Eligibility Criteria	Comply Y/N?	Proof required or evidence
19.1.2	Special Technical Requirements		
	head-end generated NIT tables to perform such updates. Note: Each region will have its NIT generated at the Head End. These tables will be distributed over Satellite and must be transparent to DTH viewers.		
19.1.2.17	NIT-Frequency updates for Regionalisation At the transmitter site and as part of content regionalisation and SI updates, the system must have a configurable feature to allow frequency changes/assignment per transport stream (i.e. PLP) in each region or transmission site to limit the scanned frequency signals (i.e. centre frequency in T2-Delivery Descriptor) and related information to that region.		Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.
19.1.2.18	SI Cross-Carriage for Regionalisation SENTECH operates two DTT Multiplexes with two PLPs per Multiplex. 3 National and one Regional PLP. I. SENTECH defines actual and other SI tables for the regional groups in the DTT network. The system must update the relevant SI actual and other tables for each PLP by the TS IDs defined for the region or Transmitter site and as described in The TS loop in each NIT per criteria 19.1.2.16.		Provide data sheets or full technical details and a reference page number in your proposal addressing each criterion point as Proof of evidence.

No	Mandatory Eligibility Criteria	Comply Y/N?	Proof required or evidence
19.1.2	Special Technical Requirements		
	II. The system must include SI Other tables from other Transport streams into the current/actual national or regional Transport Stream on any given PLP (e.g., include SDT Other and EIT Other from actual TS in other PLPs).		
19.1.2.19	DTH viewer transparency The DTT SI Tables on the DVB SIS stream must be transparent to the DTH viewers; hence, SENTECH recommends using PID value Offset in Decimal or HEX from the defined/standardised DVB SI Table PID numbers. Note: If needed, the tenderer can submit an alternative solution with a detailed explanation of the extent to which Sentech's requirements can be met and their implications.		Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.
19.1.2.20	IO Board Ingest and Payout I. The IP input/output sockets must be jitter tolerant and allow input or payout of MPEG TS streams at variable and constant bitrates . II. Support IP multicast payout through GbE ports. III. All TS Payout shall be IP Multicast, compliant with DVB ETSI TS 102 034 V2.1.1, Transport of MPEG-2 Based Services over IP-Based Networks.		Attach evidence (manuals, user guides, datasheets, etc.) and provide a reference page number in your proposal addressing each criterion point as Proof of evidence.

NOTE: Bidders that do not comply with all the above criteria will not be evaluated further.

19.2 Functional Criteria

Functional criteria are critical for ALL BIDDERS to respond. The functional capability and capacity of the provided solutions must be integrated with SENTECH technical personnel present **during the contract duration**. After fully developing the functional criteria, SENTECH and the Bidder will conduct system integration tests on the SENTECH Production Facilities. **Tests will be conducted in the SENTECH Head End Laboratory, and only mandatory criteria will be considered for risk assessment. There are no network tests for Functional criteria during risk assessment evaluation, but an exception must be provided where required.**

Non-Compliant Criteria: The Bidder failed to provide a response or evidence for each criterion response. Zero points will be allocated for such criteria if a response or proof is not provided.

Partially Complaint Criteria: The bidder fails to respond to at least one of the criterion points or sub-criteria, or a response is provided without evidence or insufficient evidence. Points are not allocated for such a criterion if a response or proof is not provided.

Fully Complaint Criteria: The bidder responded to all criterion points or sub-criteria and provided a response with evidence. Full points are allocated for all criterion points if a response with sufficient proof is provided.

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
		Max. Score Per Functional Criteria	Weighting Per Functional Criteria	
19.2.1	General Technical Requirements			
19.2.1.1	Environmental Environment: The equipment operates at any altitude up to 1,800 metres above mean sea	6	4%	Provide product Sheets, Datasheet sheets or Proof of certification and a reference page number in your

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
		Max. Score Per Functional Criteria	Weighting Per Functional Criteria	
19.2.1	General Technical Requirements			
	level, with room temperature from 0°C to +45°C and relative humidity from 5% to 90% non-condensing. (Point = 1) Power: 230V A.C.± 15%, single phase 50Hz. The equipment protected against lightning-induced transients survives and recovers to a normal operational state after a prolonged power dip or "brownout". (Point = 1) Safety: Equipment Plug Power Cord must conform to SANS IEC C13 Socket to BS 446 or Straight IEC C13 Socket to Straight IEC C14, at a minimum of 2m. (Point = 1) Fire: Materials used for the equipment should be flame retardant. Heat dissipation of PCB-mounted devices must be such that no component desoldering occurs should the room temperature rise above 45°C. (Point = 1) EMC: Provide a complete list of specifications complied with. Equipment shall meet at least EN 55022 and EN 55024 or their latest amendments. (Point = 1)			proposal as Proof of evidence.

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
		Max. Score Per Functional Criteria	Weighting Per Functional Criteria	
19.2.1	General Technical Requirements			
	Equipment Layout: Physical connections shall be on the rear of the equipment. The user interface and Common Interface are on the front of the equipment. The equipment is rack mountable in a standard" 19-inch" rack (IEC60297). All equipment dimensions must be specified. (Point = 1) • Non-Compliant (Points allocated = 0) • Partially compliant with product sheets or certifications for some criterion. (Points allocated = 4) • Fully compliant with product sheets or certifications (Points allocated = 6)			
19.2.1.2	Operation Manual I. Equipment must be supplied with at least one Operations manual (or manual set) written in English describing installation, operations, and fault finding, along with a complete list and meaning of all error messages. The manual must also describe, at least to block diagram level, the operation of the equipment offered. (Point = 2) II. The system documentation must include full technical details when modules, such as interface adaptors, sourced from third-party	4	3%	As proof of evidence, provide the Operation Manual, full technical details, and a reference page number in your proposal.

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
		Max. Score Per Functional Criteria	Weighting Per Functional Criteria	
19.2.1	General Technical Requirements			
	suppliers are included in the Tenderer's Equipment. (Point = 2) - Non-Compliant (Points allocated = 0) - Partially compliant with the Operation Manuals and technical details for some criterion (Points allocated = 2) - Fully compliant with Operation Manual and technical details (Points allocated = 4)			
19.2.1.3	Support I. Specify the maximum turnaround time for equipment repair. Turnaround time shall not exceed ten (10) working days after receipt of faulty equipment. The bidder must provide an advanced replacement option should they anticipate exceeding the turnaround time. (Point = 2) II. End of Sale and Support announcements shall be made six months before such event. (Point = 2) III. Offer an annual maintenance and support programme for equipment offered. (Point = 2) Non-Compliant (Points allocated = 0)	6	4%	Provide a commitment letter, a sample of the SLA Agreement, and a reference page number in your proposal as Proof of evidence.

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
		Max. Score Per Functional Criteria	Weighting Per Functional Criteria	
19.2.1	General Technical Requirements			
	- Partially compliant with an official letter or a sample of the SLA Agreement for some criterion. (Points allocated = 2) - Fully compliant with an official letter or a sample of the SLA Agreement (Points allocated = 6)			
19.2.1.4	Warranty I. If there are defects arising from the failure of goods to meet the specifications within the period specified in the Contract, or if no period is specified within 12 months of the date of delivery, the Contractor shall replace or repair the defective item at his expense or shall refund Sentech such costs as Sentech may incur in replacing such defective item. The Contractor shall also bear the cost of transporting replaced/repaired items to the place of destination. (Points= 4) II. Provide an option to offer SENTECH an extended warranty of at least three (3) years. (Point = 4) - Non-Compliant (Points allocated = 0) - Partially compliant with an official warranty letter (Points allocated = 4)	8	6%	Provide an official warranty letter and a reference page number in your proposal as Proof of evidence.

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
		Max. Score Per Functional Criteria	Weighting Per Functional Criteria	
19.2.1	General Technical Requirements			
	Fully compliant with an official warranty letter and extended warranty option (Points allocated = 8)			
19.2.1.5	Delivery Prices must be as specified in Part C2 of the Contract Agreement. The tables in Part C2 must indicate a guaranteed delivery time after receipt of an order, which may be eight (8) weeks. - Delivery exceeds the 8-week timeline. (Points allocated = 0) - Delivery meets the 8-week timeline. (Points allocated = 4) - Delivery improves the 8 Weeks timeline. (Points allocated = 8)	8	6%	Complete delivery details on Part C2 of the Contract Agreement
19.2.1.6	Quantity Annexure B of the Contract Data indicates the number of Phases 1 & 2 Head Ends and Satellite-Receive transmitter sites for MUX1 and MUX2 with C-Band or Ku-Band. I. Tenderers must quote both a unit price as well as for a quantity as indicated in Part C2 of the Contract Agreement. (Point = 1)	2	1%	Complete Part C2 of the Contract Agreement

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
		Max. Score Per Functional Criteria	Weighting Per Functional Criteria	
19.2.1	General Technical Requirements			
	II. The initial order is expected to consist of Phase 1 equipment for head-end uplink sites and several transmitter sites. Propose a non-redundant Head-End test (laboratory) system and Head End Disaster Recovery site. (Point = 1) However, the intention is to enter into a long-term supply agreement to meet the complete requirements of all 3 Project Phases. - Non-Compliant (Points allocated = 0) - Partially compliant (Points allocated = 1) - Fully compliant (Points allocated = 2)			
19.2.1.7	Training Sentech technical staff will receive full training to operate and maintain all equipment. Training will be provided at Sentech's offices in Johannesburg, South Africa. At least three days will be required to cover the theory of system operation and maintenance of the DVB SIS equipment. Make provision for at least 20 trainees. (Points= 4) - Non-Compliant (Points allocated = 0) - Compliant with at least three days and 20 Trainees (Points allocated = 4)	4	3%	Complete Part C2 of the Contract Agreement
19.2.1.8	Installation and Commissioning	8	6%	Propose an implementation

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
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19.2.1	General Technical Requirements			
	Offer installation and commissioning of the equipment at the Johannesburg and Nasrec Head Ends and one receive (transmitter) site. Sentech will provide rack space. Final acceptance will only occur after demonstrating full technical and operational compliance (i.e. fully debugged). (Points= 8) • Non-Compliant (Points allocated = 0) • Compliant with Installation and Commissioning plans (Points allocated = 8)			plan and provide a reference page number in your proposal as Proof of evidence.
19.2.1.9	System Configuration Sentech requires elegant (not overly complicated) solutions. SENTECH will prefer systems requiring lower equipment counts at the head end. (Points= 8) • Non-Compliant (Points allocated = 0) • Overly complicated Solution (Points allocated = 4) • Less complicated Solution (Points allocated = 8)	8	6%	Provide a complete solution design. Show the number of pieces of equipment involved and include a reference page number in your proposal as Proof of evidence.

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
		Max. Score Per Functional Criteria	Weighting Per Functional Criteria	
19.2.2	Special Technical Requirements			
19.2.2.1	Equipment Interface I. TS inputs and outputs on the Head End's CSG equipment shall be provisioned on GbE ports for redundancy configuration and redundant SIS or content streams. ASI ports must be provided as an option. (Point = 4) II. TS inputs and outputs on the transmitter site's DSA equipment shall be provisioned on ASI ports for easy integration at transmitter equipment. (Point = 4) III. The command, control, or management interface shall be RJ45 on at least 100bT Ethernet ports. (Point = 4) - No Input Output ASI Support (Points allocated = 0) - ASI inputs and outputs must work with IP inputs and outputs. (Point = 4) 2 x Input Output ASI and IP Support per Chassis (Points allocated = 8) 4 x ASI Input and IP Support per Chassis (Points allocated = 12) NB: It is recommended and advantageous to supply an HDc (High-Density Chassis) with PCI	12	8%	Provide product Sheets datasheet sheets and a reference page number in your proposal as Proof of evidence.

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
		Max. Score Per Functional Criteria	Weighting Per Functional Criteria	
19.2.2	Special Technical Requirements			
	or PCIe slots where connection interfaces are field upgradable.			
19.2.2.2	System Capacity I. Specify the maximum data rates supported by each type of equipment. The minimum data rate supported shall equal the maximum supported by DVB-T2 per multiplex. (Point = 4) II. Specify the maximum number of streams the equipment can support. The minimum number of elementary streams supported must exceed 300 per Multiplex. (Point = 4) - Non-Compliant (Points allocated = 0) - Partial Compliant: The minimum data rate or minimum number of streams per equipment does not comply (Points allocated = 4) - Fully Compliant: The minimum data rate and number of streams comply. (Points allocated = 8)	8	6%	Provide product Sheets datasheet sheets and a reference page number in your proposal as Proof of evidence.
19.2.2.3	Support for MPLP I. The number of PLPs supported must be specified, and whether the restriction is a hardware or software limitation. (Points = 2)	6	4%	Provide product and datasheets and a reference page number in your proposal as Proof of evidence.

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
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19.2.2	Special Technical Requirements			
	II. Preference will be given to systems supporting 16 or more PLPs per multiplex. (Points = 4) - Number of PLPs not specified (Points allocated = 0) - Partially Compliant (Points allocated = 2) - Fully Compliant (Points allocated = 6)			
19.2.2.4	Network Management System It is not a requirement for the Tenderer to supply a Network Management System, but it is required for the DVB SIS System to: I. Analyse inputs and convey the information to the management platform. (Points = 2) II. Convey PLP configuration, e.g., regional or otherwise differentiated service groups. (Points = 2) III. Control the handling of PSI/SI for each transport stream/PLP reaching the end-user devices. The system should be able to pass locally (Sentech head-end) or externally generated PSI/SI. (Points = 2)	18	13%	Provide a technical proposal demonstrating the capability and include a reference page number as Proof of evidence.

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
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19.2.2	Special Technical Requirements			
	IV. Compose a transport stream consisting of services selected from different input streams and be able to generate some or all the PSI/SI tables for the output. The system must cope with channel line-up changes. (Points = 2) V. Ensure that the correct selection of PLPs is emitted into each transmitter. (Points = 2) VI. Save the configurations and recover from the last active configuration in case of system failure. (Points = 2) VII. Reconfigure the system so that it is not cumbersome and error-prone and does not require more than a few minutes to complete. This considers any change in the channel line-up, e.g., adding a new service, deleting a service, or changing service names or components. (Points = 2) VIII. Perform cold standby redundancy with manual Primary and Secondary synchronisation. (Points = 2) IX. SNMP is preferred for equipment configuration. If any proprietary protocol is used as a standalone or in conjunction with SNMP, it should be indicated, and all			

Functionality Criteria Evaluation for DVB SIS System				
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19.2.2	Special Technical Requirements			
	protocol details will be made known to Sentech. (Point = 2) • Non-Compliant (Points allocated = 0) • Partially Comply with Insufficient evidence for some criterion. (Points allocated = 6) • Partially comply with sufficient evidence for some criterion. (Points allocated = 12) • Fully Compliant with Sufficient evidence (Points allocated = 18)			
19.2.2.5	Monitoring and Supervisory I. Equipment must be compatible with at least SNMP version 2. The tenderer must clearly state the SNMP version supported in their reference material (Points = 2) II. The equipment should operate at High Performance and Responsiveness with sufficient memory allocation. (Points = 2) III. The equipment should log and store application, event, and operational error messages. (Points = 2) IV. The supplier shall make the SNMP MIB (Management Information Base) files available to enable Sentech to determine	14	10%	Provide the Operation Manual or full technical details and a reference page number in your proposal as Proof of evidence.

Functionality Criteria Evaluation for DVB SIS System				
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19.2.2	Special Technical Requirements			
	which parameters can be monitored and controlled. (Points = 2) V. The equipment shall be able to send traps to a higher-level operations management platform (i.e., NMS systems operated by SENTECH). (Points = 2) VI. Equipment shall also support web browser-based remote control and monitoring or standalone applications. This shall allow complete equipment configuration, control, and monitoring. Tenders must ensure the application is fully supported on the latest web browser application versions and Windows operating systems. If applets such as Java and HTML5 are used, the tenderer must ensure the application continues operating normally. (Points = 2) VII. Equipment must also have an open contact relay summary alarm. (Points = 2) • Non-Compliant (Points allocated = 0) • Partially Comply with Insufficient evidence for some criterion. (Points allocated = 6) • Partially Comply with Sufficient evidence for some criterion. (Points allocated = 8) • Fully Compliant with Sufficient evidence			

Functionality Criteria Evaluation for DVB SIS System				
Item No.	Description of functional criteria evaluation	Weighting Factor		Proof or evidence required
		Max. Score Per Functional Criteria	Weighting Per Functional Criteria	
19.2.2	Special Technical Requirements			
	(Points allocated = 14)			
19.2.2.6	External Clock Reference It should be assumed that 1PPS and 10MHz GPS feeds will be available at the head-end and transmission sites. Preference will be given to equipment capable of synchronising with external 1PPS and 10MHz GPS reference. As an option, bidders can indicate if their equipment has internal GPS receivers. (Points =4) - Non-Compliant (Points allocated = 0) - Fully Compliant (Points allocated = 4)	4	3%	Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.
19.2.2.7	System Availability The MTBF (mean time between failures) for each proposed equipment type must be provided. MTBF must also be specified for the system. Indicate if these are calculated or historical values. Calculate the effect on MTBF for equipment redundancy where proposed. (Points =2) - Non-Compliant (Points allocated = 0) - Fully Compliant (Points allocated = 2)	2	1%	Provide data sheets or full technical details and a reference page number in your proposal as Proof of evidence.

Functionality Criteria Evaluation for DVB SIS System				
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19.2.2	Special Technical Requirements			
19.2.2.8	OTT Data Integration The system must be capable of allocating encapsulated data PIDs with necessary PSI/SI information into any PLP of the DTT Multiplex. The PID and PSI/SI must be transparent to the DTH and STB viewers. (Points =4) - Non-Compliant (Points allocated = 0) - Fully Compliant (Points allocated = 4)	4	3%	Provide complete technical details and a reference page number in your proposal as Proof of evidence.
19.2.2.9	Company Experience (Past Performance) In similar DVB SIS Deployments (Provide reference letters from customers with appropriate letterheads where the vendor and/ supplier have deployed the system) <u>Non-submission or (0 projects):</u> (Points allocated = 0) <u>Poor:</u> Limited experience (1 project) (Points allocated = 5) <u>Satisfactory:</u> Reasonable experience (2-3 projects) (Points allocated = 10) <u>Good:</u> Adequate experience (4-5 projects) (Points allocated = 15) <u>Very Good:</u> Outstanding experience 6+projects) (Points allocated = 20)	20	14%	Project-specific client letters with company letterheads and Contactable references. Fill in the Table of References below.
Total Number of Maximum Points		142	100%	
Points achieved after Functional Evaluation				

Table 1: Functional Criteria

Total minimum qualifying functional score is #112 points. A Bidder must score 112 points or more to be evaluated further.

20. Evaluation of Price and Preference

This Bid will be evaluated on a points system based on weighted average score for Price and Preference as per Preferential Procurement Framework Act of 2000 (Act 5 of 2000).

21. Preference Point allocation – 80/20

Price / Preference	Weighting percentage
Preference:	20%
Price:	80 %
Total must equal:	100%

Sentech will award preference points as follows:

Goal	Points	Evidence required
Historically disadvantaged by unfair discrimination on the basis of Race	10	A valid BBEE Certificate showing at least 51% black ownership
Historically disadvantaged by unfair discrimination on the basis of Gender (women)	8	A valid BBEE Certificate showing at least 30% women ownership
Historically disadvantaged by unfair discrimination on the basis of disability	2	A doctor's note confirming disability, confirmation of disability from the Department of Labour, BEE certificate or equivalent confirmation.
Total Points	20	

22. Price Calculation 80/20

The following formula will be used to calculate the points for price.

$$Ps = 80 \left[\frac{1 - (Pt - Pmin)}{Pmin} \right]$$

Where:

Ps	=	Points scored for price of bid under consideration
Pt	=	Rand value of bid under consideration
Pmin	=	Rand value of lowest acceptable bid

23. Declaration of Authority

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this Bid Data is understood and all requirements will be adhered to.

Name of Bidder	Signature	Date	Designation

TABLE 1: REFERENCES

Please complete the customer reference table and relevant Contact telephone number and attach reference letters.

Customer		Service Provided	Contact Person	Contact no.	tel.	Contractual commencement date	Contractual completion date
1							
2							
3							
4							

5						
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Name of Tenderer	Signature	Date