

**Information to Bidder for Supply, Installation and commissioning of IP Colour Cameras and all accessories required for their installation for VSS project through GeM as per RDSO Specification No. RDSO/SPN/TC/65/2016, Revision 4.0 or latest.**

**Ref: GeM Bid No. Bid Number: GEM/2019/B/190244 Dated: 22-02-2019**

1. Various networking items should be quoted as per Technical specifications. These can also be seen at [www.railtelindia.com](http://www.railtelindia.com)
2. In the specification wherever support for a feature has been asked for, it will mean that the feature should be available without RailTel requiring any other hardware/software/licenses. Thus, all hardware/software/licenses required for enabling the support/feature shall be included in the offer.
3. OEM or Authorized distributor/Partner of OEM should have a registered office in India to provide sales and 24x7 support in India. The certificate to this effect should be submitted. The bidder should be either OEM or his authorized dealer/distributor.
4. Equipment offered shall have complete data sheets and detailed description on OEM web sites.
5. Bidder shall submit the detailed BOM of the equipment offered duly verified and certified by the respective OEM. The bidder should provide detailed price break up (taxes etc.) of the cost of the equipment along with the bid.
6. GSTIN ID of vendor should be provided from where goods will be supplied.
7. Delivery period: **30 days** from the date of PO.
8. Inspection: Pre-shipment/pre-dispatch inspection shall be carried out at manufacturer's/supplier's works by RailTel's authorized representative.
9. Consignee: RailTel Corporation of India Ltd., NR/New Delhi, WR/Mumbai, SR/Secunderabad, ER/Kolkata. The detail of the consignee given under Annexure-III & IV.
10. **Tender Cost & Earnest Money Deposit (EMD)/ Bid Security:**
- 10.1 **Tender Cost:** Estimated cost of the Tender is **Rs. 21,11,59,584/-**.
- 10.2 **Earnest Money Deposit (EMD)/ Bid Security: Rs. 10,00,000/-** in the form of Pay Order/Demand Draft drawn in favor of RailTel Corporation of India Ltd. payable at New Delhi. The Bid received without EMD will be summarily rejected.
11. **For NSIC registered Firm:**
  - A) For small scale units registered with NSIC under single point registration Scheme and participating in this tender enquiry, following exemptions are available: -

They are exempted from depositing Earnest money.

These exemptions are applicable provided units are registered with NSIC for tendered item and registration is current and valid. Firms claiming these exemptions are required to submit along with their offer, copy of their current and valid NSIC registration certificate for the tendered item, otherwise their offer would not be considered.
  - B) No exemption is, however, applicable to these units from payment of security deposit/ Performance Bank Guarantee.
  - C) This bid complies with "Public Procurement (preference to make in India) Policy Order, 2017 issued by DIPP and Public Procurement Policy for Micro and Small Enterprises (MSEs) order, 2012" issued by MoSME."
  - D) Any Other guideline issued by Govt. for MSME time to time will be applicable.

**12. Security Deposit/Performance Bank Guarantee:**

The successful tenderer shall submit security deposit in the form of DD/FDR or irrevocable Bank Guarantee from any scheduled bank for due fulfillment of contract as per the details given below:

- i. Security Deposit/Performance Bank Guarantee @ 10% of total value of Purchase Order is required to be submitted within 30 days of issue of Purchase Order with validity of 3 months beyond warranty period as per format (Annex-II).
- ii. The security deposit/PBG shall be submitted to Corporate Office Gurgaon.
- iii. A separate advice of the BG will invariably be sent by the BG issuing bank to the RailTel's Bank through SFMS and only after this the BG will become acceptable to RailTel. It is therefore in own interest of bidder to obtain RailTel's bank IFSC code, its branch and address and advise these particulars to the BG issuing bank and request them to send advice of BG through SFMS to the RailTel's Bank.

The security deposit/Performance Bank Guarantee shall be released after successful completion of Contract obligations under the contract, duly adjusting any dues recoverable from the successful tenderer. Payment of Security Deposit in the form of Pay Order/Demand Draft should be made in favor of "RailTel Corporation of India Ltd" payable at New Delhi only.

**13. Eligibility Criteria for OEM:**

- a. The Equipment offered by the OEM or equipment of the same series/family from the same OEM should have been satisfactorily working in Government/PSUs/Telecom Service Providers network for at least 12 months as on opening of bid, in India or Abroad. The certificates from the actual users will have to be submitted offline. If the OEM is not manufacturing in India, in such a case, OEM should have successfully deployed the product being offered in this tender, in at least two countries other than the country of origin and it should be working satisfactorily and successfully for at least 12 months in these two countries other than the country of origin. Necessary certificate from the end user must be part of the documents to be submitted along with the offer.
- b. The OEM should have supplied at least 35% of the tendered quantity of the equipment offered or equipment of the same series/family during last preceding 3 financial years (i.e. current year and three previous financial years) as on opening of bid to Government/PSUs/Telecom Service Providers. OEM can submit self-certificate with proper contact detail of clients (Firm Name, Contact person, Designation, Telephone Number, Fax, Official mail id etc.). The same should be issued by authorized signatory.
- c. The OEM should have proven facilities for Engineering, manufacture, assembly, integration and testing of **IP Colour Camera** and basic facilities with respect to space, Engineering, Personnel, Test equipment, Manufacture, Training, Repair, Service Center Supports for at least past three years in the country from where the proposed equipment are planned to be supplied. In case OEM is located outside India, it should have training repair and service center facilities in India also. The certificates/Undertaking for the same will have to be submitted offline.

**14. Eligibility Criteria for Bidder:**

- a. The tenderer should have executed order of supply/ provision of Telecom equipment like **IP Colour Camera** during last preceding 3 financial years (i.e. current year and three previous financial years) as on opening of bid, as per following:

A single order of atleast 35% of tendered value.

OR

Two orders of atleast 20% each of tendered value.

OR

Three orders of atleast 15% each of tendered value.

Satisfactory Performance certificate issued by customer/s for the Purchase Orders/ Work Orders should be enclosed.

- b. The bidder should have annual turnover of minimum 150% of tendered value or above during the last 3 financial years (i.e. current year and three previous financial years). The bidder should provide Audited Balance Sheets / annual reports as documentary evidence or other such documents so as to establish the financial soundness of their company for the preceding three financial years.

- c. Bidder should have authorization specific to this tender from respective OEM.

**15. Purchaser's Right to Vary Quantities:**

The Purchaser reserves the right to increase or decrease the ordered quantity up to 25 percent at the time of placement of contract. The purchaser also reserves the right to increase the contracted quantity up to 25 % during the currency of the contract at the contracted rates. Bidder is bound to accept the order accordingly.

**16. SPLITTING OF QUANTITY-**

**16.1 : Deleted**

**16.2** In case of PMA, Government of India Guideline/Instruction on PMA will be applicable.

**17. WARRANTY:**

- 17.1** The materials are to be warranted for **three years** from date of delivery to the consignee. The tenderer shall warrant that stores to be supplied shall be new and free from all defects and faults in material, workmanship and manufacturing and shall be of the highest grade and consistent with the established and generally accepted standards of materials of the type ordered and shall perform in full conformity with the specifications and drawings.

The supplier shall be responsible for any defects that may develop under the conditions provided by the contract and under proper use, arising from faulty materials, design or

workmanship such as corrosion, inadequate quantity of material to meet equipment requirements, inadequate contact protection, deficiencies in design and/ or otherwise and shall

remedy such defects at his own cost when called upon to do so by the Purchaser who shall state in writing in what respect the stores are faulty.

## **17.2 SLA:**

After having been notified of the defects / service requirement during warrantee period, Seller has to complete the required Service / Rectification within time limit of max. 7 days. If the Seller fails to complete service / rectification with defined time limit, a penalty of 0.5% of Unit Price of the product shall be charged as penalty for each week of delay from the seller & upto max. of 10% of Unit Price of the product.

Seller can deposit the penalty with the Buyer directly else the Buyer shall have a right to recover all such penalty amount from the Performance Security (PBG).

## **18. Delivery Period**

The supplier will have to supply the material within **30 days** of issue of confirmed LOA/PO.

## **19. Long Term Maintenance Support:**

Tenderer (OEM) shall provide maintenance support after successful completion of the warranty obligations for a minimum period of **5 years**. The long term maintenance support shall be comprehensive and include all hardware and software of equipment supplied against this contract. RailTel should be extended the benefits of periodical software patches/updates made by OEM on the system from time to time for equipment security/performance without any additional cost to RailTel.

Buyer **reserves** the right to enter into AMC @ 3.5% of ordered value of equipment before 30 days of expiry of warranty period. In case bidder refuses to enter into AMC, PBG will be forfeited.

Separate agreement for AMC (Long term Maintenance Support) before expiry of warranty period shall be entered into with OEM/the authorized partner of OEM by RailTel. A fresh Bank Guarantee valid for Five years and four months for 10% of the Long Term Maintenance Support cost of five years, shall be required to be submitted by bidder for due fulfillment of long term maintenance support obligation.

Quarterly payment for AMC Charges would be made by RailTel after successful completion of AMC Services of that quarter and on the certificate furnished by concerned RailTel representative.

**Note: The acceptance of the above clause is mandatory and specific acceptance from OEM is required to be enclosed as per Annexure-I. Any deviation / non acceptance will lead to rejection of the bid.**

**20. Payment Conditions :-**

- i. 100% payment against full supply OR Supply, Installation & Commissioning.
- ii. 90% payment against part supply OR Supply, Installation & Commissioning. Balance payment shall be made after full supply.

**21. Offline Submissions:**

The bidder is required to submit the following documents offline to RailTel Corporation of India Ltd, Institutional Area, Plot No. 143, Sector 44, Gurugram before **08.03.19 Hrs of 11.00** in a Sealed Envelope. The envelope shall bear 'DO NOT OPEN BEFORE' (due date & time). The offline documents shall be opened at **08.03.19 Hrs of 11:30** Bid without these off line submission of documents will be liable to be rejected.

- i. EMD
- ii. MAF/ OEM Authorization Letter
- iii. BOQ of offered equipment.
- iv. Data Sheet of offered equipment.
- v. Financial and Technical Eligibility Criteria documents.
- vi. Technical Compliance of Specification.
- vii. Certificate from the End user against the Eligibility criteria for OEM para 13.
- viii. Acceptance from OEM as per Annexure-I against long term maintenance support para 19.

**Note:** 1) The acceptance of all the clauses mentioned in the **“Information to the Bidders”** document is mandatory. Any deviation / non-acceptance will lead to rejection of the bid summarily.

2) Information to Bidder viz. corrigendum /addendum/ amendments etc. for this bid shall be posted on [www.railtelindia.com](http://www.railtelindia.com) only.

3) This bid is governed by the Specific Additional Terms & Conditions and General Terms & Conditions laid down by the GeM against **GeM Bid No. GEM/2019/B/190244 Dated: 22-02-2019**

In case, If any contradiction between GeM Additional Terms & Conditions and General Terms & Conditions, RailTel Terms & Conditions will prevail.

4) Bid : RA will be operated for this bid.

### **Technical Specifications**

SOR wise details are as:

<b>SOR</b>	<b>Item</b>	<b>Regions</b>	<b>Qty</b>	<b>Total Quantity</b>
<b>1</b>	Supply, Installation and commissioning of Fixed dome Type IP Colour Camera along with housing and mount and all accessories required for their installation as per RDSO Specification No. RDSO/SPN/TC/65/2016 Revision 4.0 or latest.	NR	486	<b>1224</b>
		WR	192	
		ER	252	
		SR	294	
<b>2</b>	Supply, Installation and commissioning of Bullet Type IP Colour Camera along with housing and mount and all accessories required for their installation as per RDSO Specification No. RDSO/SPN/TC/65/2016 Revision 4.0 or latest.	NR	2187	<b>5508</b>
		WR	864	
		ER	1134	
		SR	1323	
<b>3</b>	Supply, Installation and commissioning of P/T/Z Type IP Colour Camera along with housing and mount and all accessories required for their installation as per RDSO Specification No. RDSO/SPN/TC/65/2016 Revision 4.0 or latest.	NR	243	<b>612</b>
		WR	96	
		ER	126	
		SR	147	
<b>4</b>	Supply, Installation and commissioning of 4K UHD Bullet Type IP Colour Camera along with housing and mount and all accessories required for their installation as per RDSO Specification No. RDSO/SPN/TC/65/2016 Revision 4.0 or latest.	NR	324	<b>816</b>
		WR	128	
		ER	168	
		SR	196	

## SOR-I Fixed Dome Type IP Colour Camera:

### 1. Technical specifications

The Full HD Fixed Dome Type IP Colour Camera shall have the following minimum specifications:-

S. No.	Parameter	:	Specification
i.	Image Sensor	:	1/ 2.8" or larger, Progressive scan, CMOS sensor
ii.	Pixels	:	2.0 Mega Pixel Full HD (1920x1080)
iii.	Video Compression	:	H.264/H.265
iv.	Dual Stream	:	Dual H.264/H.265 Streams
v.	Video resolutions	:	a) For Main stream : i)1920x1080 (Full HD) ii)Configurable from Full HD to other HD/SD Resolution b) For Second Stream: Configuration from D1 to other HD/SD resolutions.
vi.	Resolution and Frame Rate	:	Minimum 25 frames per second (FPS) for both the streams. Full HD@ 25 FPS with H.264/H.265 compression on one stream & D1@ 25 FPS with H.264/H.265 compression on other stream.
vii.	Minimum Illumination :		
	a) Colour Mode	:	0.5 Lux
	b) Night Mode (Black & White)	:	0.05 Lux
viii.	Shutter speed	:	Maximum shutter speed should be 1/8000 sec or higher
ix.	Signal to Noise Ratio	:	≥ 45 dB
x.	Video Standard	:	PAL
xi.	Lens	:	3.8mm - 8mm
xii.	Day/Night Camera	:	Auto Day/Night Configuration
xiii.	Data rate	:	i) 8 Mbps maximum for H.264/H.265 Video Compression. ii) Shall work on 3 Mbps bit rate or less average for Full HD@ 25 FPS at Variable bit rate (VBR) on individual (Single) stream with H.264/H.265 Video Compression.
xiv.	Video Streaming	:	Unicast and Multicast streams
		:	

xv.	Text Superimposing	:	Camera shall support superimposing the title and date & time on the video
xvi.	Edge Storage	:	Edge Storage slot suitable for 64 GB SD/SDHC/SDXC memory or higher along with memory card.
xvii.	Network Connectivity	:	Ethernet, 10/100 Base T
xviii.	Discovery Interface	:	OEM interface to detect the Camera automatically and configure network settings
xix.	Network Protocols	:	Suitable and required network protocol stack to work Camera in TCP/IP based Ethernet network environment. (As required for system working)
xx.	Web Server	:	Internal Web server required with embedded operating system.
xxi.	Automatic Gain Control	:	Required
xxii.	Back light Compensation (BLC) or High Light Compensation (HLC) or Automatic White Balance	:	Required.
xxiii.	Wide Dynamic Range (WDR)	:	Required
xxiv.	Alarm Inputs / outputs	:	1 input & 1 output
xxv.	Input Voltage	:	220V AC Voltage (Nominal) / 24V AC or DC /12V DC / PoE
xxvi.	PoE	:	IEEE 802.3af compliant
xxvii.	Operating Temperature	:	0°C to +50°C
xxviii.	Operating Humidity	:	20 to 80% RH non-condensing
xxix.	Enclosure Protection	:	Vandal proof and Impact resistant Aluminium enclosure with IP66 or NEMA-4 or better
xxx.	Regulatory Approvals/ Certifications	:	<p>UL or EN or CE or IEC or IS certification for Safety and</p> <p>CE or FCC Certifications for EMC &amp; Immunity.</p> <p>Note: For EN/IEC/IS/CE/FCC, test certificate to be provided from NABL/NABCB accredited Labs or internationally reputed test agencies along with detailed test reports.</p>
xxxi.	Two way/Bi-directional Audio	:	Required for Sound Detection



	Input/Output		
xxxii.	ONVIF Compliance	:	ONVIF Profile 'S'. The quoted models should appear on the ONVIF website and a confirmation certificate for the offered models to be provided.
xxxiii.	MAC Address	:	The MAC address of the IP Cameras must be registered in the name of OEM supplying the Cameras.

2. **Scope of work:**

<b>Supply</b>	As per technical specification
<b>Installation</b>	<ol style="list-style-type: none"> <li>1. The bidder to prepare a site plan showing exact location of different type of cameras at various locations like parking areas, entrance/exit points, platforms, yards, waiting halls, ticket counters, offices, foot over bridges, circulating areas etc. as per site requirement in consultation with RailTel after the proper site survey. In general, 40 cameras have been planned at each station. The site plan shall be approved by RailTel.</li> <li>2. Fix camera as per approved site plan &amp; connect cameras on STP CAT-6 cable (RDSO Specification of IP Based Video Surveillance System Specification no. RDSO/SPN/TC/65/2016 Revision 4.0 or latest with all amendments) to nearest PoE Switch. Approximately, 25 meter STP CAT-6 cable and associated accessories to be provided by bidder along with each camera.</li> </ol>
<b>Commissioning</b>	Free/Open source VMS to be installed in a server (server to be provided by RailTel) for approx. 40 camera/station and display video recording, playback and live display of cameras at stations as well as from any central location through a VMS client. OS for server, if required shall be provided by RailTel.
<b>Warranty and AMC</b>	3 Years warranty after completion of installation and Commissioning 5 Years AMC post warranty period

## **SOR-2 Bullet type IP Colour Camera:**

### **1. Technical specifications**

The Full HD Bullet type IP Colour Camera shall have the following minimum specifications:-

<b>S. No.</b>	<b>Parameter</b>	<b>: Specification</b>
i.	Image Sensor	1/ 2.8" or larger, Progressive scan, CMOS sensor
ii.	Pixel Resolution	2.0 Mega Pixel Full HD (1920x1080)
iii.	Video Compression	: H.264/H.265
iv.	Dual Stream	: Dual H.264/H.265 Streams
v.	Video resolutions	: a) For Main stream : i)1920x1080 (Full HD) ii)Configurable from Full HD to other HD/SD resolution b) For Second Stream: Configuration from D1 to other HD/SD resolutions.
vi.	Resolution and Frame Rate	: Minimum 25 frames per second (FPS) for both the streams. Full HD@ 25 FPS with H.264/H.265 compression on one stream & D1@ 25 FPS with H.264/H.265 compression on other stream.
vii.	Minimum Illumination :	
	a) Colour Mode	: 0.5 Lux
	b) Night Mode (Black & White)	: 0.05 Lux
viii.	Shutter speed	: Maximum shutter speed should be 1/8000 sec or higher
ix.	Signal to Noise Ratio	: ≥ 45 dB
x.	Video Standard	: PAL
xi.	Motorized Varifocal Lens	: Motorized Varifocal IR corrected lens suitable for 2 Mega Pixel Full HD Camera.
xii.	Infra Red	: Built-in Infra-Red Illuminator with range 20 m or More

		:	Auto Day/Night Configuration
xiii.	Day/Night Camera	:	
xiv.	Data rate	:	<p>i) 8 Mbps maximum for H.264/H.265 Video Compression.</p> <p>ii) Shall work on 3 Mbps bit rate or less average for Full HD@ 25 FPS at Variable bit rate (VBR) on H.264/H.265 individual (Single) stream with 5 Video Compression.</p>
xv.	Video Streaming	:	Unicast and Multicast streams
xvi.	Text Superimposing	:	Camera shall support superimposing the title and date & time on the video
xvii.	Edge Storage	:	Edge Storage slot suitable for 64 GB SD/SDHC/SDXC memory or higher along with memory card.

xviii.	Network Connectivity	:	Ethernet, 10/100 Base T
xix.	Discovery Interface	:	OEM interface to detect the Camera automatically and configure network settings
xx.	Network Protocols	:	Suitable and required network protocol stack to work Camera in TCP/IP based Ethernet network environment. (As required for system working)
xxi.	Web Server	:	Internal Web server required with embedded operating system.
xxii.	Automatic Gain Control	:	Required
xxiii.	Back light Compensation (BLC) or High Light Compensation (HLC) or Automatic White Balance	:	Required.
xxiv.	Wide Dynamic Range (WDR)	:	≥ 90 dB
xxv.	Two way/ Bi-directional Audio Input / Output	:	Required for Sound Detection.
xxvi.	Alarm Inputs / outputs	:	1 input & 1 output
xxvii.	Input Voltage	:	220V AC Voltage (Nominal)/ 24V AC or DC/12V DC/ PoE
xxviii.	PoE	:	IEEE 802.3af compliant
xxix.	Operating Temperature	:	0°C to +50°C
xxx.	Humidity	:	20 to 80% RH non- condensing
xxxi.	Ingress Protection	:	IP66 or NEMA-4 or better
xxxii.	Enclosure Protection	:	Vandal proof and Impact resistant
xxxiii.	Regulatory Approvals/  Certifications	:	UL or EN or CE or IEC or IS certification for Safety and CE or FCC Certifications for EMC & Immunity.  Note: For EN/IEC/IS/CE/FCC, test certificate to be provided from NABL/NABCB accredited Labs or internationally reputed test agencies along with detailed test reports.
xxxiv.	ONVIF Compliance	:	ONVIF Profile 'S'. The quoted models should appear on the ONVIF website and a confirmation certificate for the offered models to be provided.
xxxv.	MAC Address	:	The MAC address of the IP Cameras must be registered in the name of OEM supplying the Cameras.

2. **Scope of work:**

<b>Supply</b>	As per technical specification
<b>Installation</b>	<ol style="list-style-type: none"> <li>1. The bidder to prepare a site plan showing exact location of different type of cameras at various locations like parking areas, entrance/exit points, platforms, yards, waiting halls, ticket counters, offices, foot over bridges, circulating areas etc. as per site requirement in consultation with RailTel after the proper site survey. In general, 40 cameras have been planned at each station. The site plan shall be approved by RailTel.</li> <li>2. Fix camera as per approved site plan &amp; connect cameras on STP CAT-6 cable (RDSO Specification of IP Based Video Surveillance System Specification no. RDSO/SPN/TC/65/2016 Revision 4.0 or latest with all amendments) to nearest PoE Switch. Approximately, 25 meter STP CAT-6 cable and associated accessories to be provided by bidder along with each camera.</li> </ol>
<b>Commissioning</b>	Free/Open source VMS to be installed in a server (server to be provided by RailTel) for approx. 40 camera/station and display video recording, playback and live display of cameras at stations as well as from any central location through a VMS client. OS for server, if required shall be provided by RailTel.
<b>Warranty and AMC</b>	<p>3 Years warranty after completion of installation and Commissioning</p> <p>5 Years AMC post warranty period</p>

**SOR 3 P/T/Z (Pan/Tilt/Zoom) IP Colour Camera:****1. Technical specifications:****P/T/Z (Pan/Tilt/Zoom) IP Colour Camera:****1. Technical specifications:**

The Full HD P/T/Z (Pan/Tilt/Zoom) IP Colour Camera shall have the following minimum specifications:-

S. No.	Parameter	:	Specification
i.	Image Sensor	:	1/ 2.8" or larger, Progressive scan, CMOS sensor
ii.	Pixels	:	2.0 Mega Pixel Full HD (1920x1080)
iii.	Video Compression	:	H.264/H.265
iv.	Dual Stream	:	Dual H.264/H.265 Streams
v.	Video resolutions	:	a) For Main stream : i)1920x1080 (Full HD) ii)Configurable from Full HD to other HD/SD resolution b) For Second Stream: Configuration from D1 to other HD/SD resolutions.
vi.	Resolution and Frame Rate	:	Minimum 25 frames per second (FPS) for both the streams. Full HD@ 25 FPS with H.264/H.265 compression on one stream & D1@ 25 FPS with H.264/H.265 compression on other stream.
vii.	Minimum Illumination :		
	a) Colour Mode	:	0.5 Lux
	b) Night Mode (Black & White)	:	0.05 Lux
viii.	Shutter speed	:	Maximum shutter speed should be 1/8000 sec or higher.
ix.	Signal to Noise Ratio	:	≥ 45 dB
x.	Video Standard	:	PAL
xi.	Lens	:	a) Optical zoom 30x or better IR corrected lens

			suitable for Full HD Camera. b) Focal length of lens: Upper range shall be 125 mm or higher.
xii.	Digital zoom	:	12x or better
xiii.	Focus & Iris	:	Automatic with manual override
xiv.	Pan/Tilt adjustment	:	360° continuous pan; 0° to 90° tilt from horizontal plane

xv.	Preset speed	:	90°/sec ± 0.5° accuracy
xvi.	Pan/Tilt speed	:	1°/sec to 90°/sec
xvii.	Sector Blanking	:	Required. Camera 360 degree pan rotation to be divided in 8 sectors and any sector shall be blanked as required by the operator
xviii.	Preset Titling	:	The Camera shall allow the storage of up to 99 preset scenes with each preset programmable for 16 character titles
xix.	Data rate	:	i) 8 Mbps maximum for H.264/H.265 Video Compression ii) Shall work on 3 Mbps bit rate or less average for Full HD@ 25 FPS at Variable bit rate (VBR) on H.264/ individual (Single) stream with H.265 Video Compression
xx.	Video Streaming	:	Unicast and Multicast streams
xxi.	Text Superimposing	:	Camera shall support superimposing the title and date & time on the video
xxii.	Edge Storage	:	Edge Storage slot suitable for 64 GB SD/SDHC/SDXC memory or higher along with memory card.
xxiii.	Network Connectivity	:	Ethernet, 10/100 Base T
xxiv.	Discovery Interface	:	OEM interface to detect the Camera automatically and configure network settings
xxv.	Network Protocols	:	Suitable and required network protocol stack to work Camera in TCP/IP based Ethernet network environment. (As required for system working)
xxvi.	Web Server	:	Internal Web server required with embedded operating system.
xxvii.	Automatic Gain Control	:	Required

xxviii.	Back light Compensation (BLC) or High Light Compensation (HLC) or Automatic White Balance	:	Required
xxix.	Wide Dynamic Range (WDR)	:	Required
xxx.	Alarm Inputs / outputs	:	1 input & 1 output
xxxi.	Input Voltage	:	220V AC Voltage (Nominal) / 24V AC or DC/ 12VDC
xxxii.	Operating Temperature	:	0°C to + 50°C
xxxiii.	Operating Humidity	:	20 to 80% RH non-condensing
xxxiv.	Enclosure Protection	:	Vandal Proof Impact Resistant Aluminium enclosure with IP66 or NEMA-4 or better.
xxxv.	Regulatory Approvals/ Certifications	:	UL or EN or CE or IEC or BIS certification for Safety and CE or FCC Certifications for EMC & Immunity. Note: For EN/IEC/IS/CE/FCC, test certificate to be provided from NABL/NABCB accredited Labs or internationally reputed test agencies along with detailed test reports.
xxxvi.	Two way/Bidirectional Audio Input/Output	:	Required for Sound Detection.
xxxvii.	ONVIF Compliance	:	ONVIF Profile 'S'. The quoted models should appear on the ONVIF website and a confirmation certificate for the offered models to be provided.
xxxviii.	MAC Address	:	The MAC address of the IP Cameras must be registered in the name of OEM supplying the Cameras.



2. **Scope of work:**

<b>Supply</b>	As per technical specification
<b>Installation</b>	<ol style="list-style-type: none"> <li>1. The bidder to prepare a site plan showing exact location of different type of cameras at various locations like parking areas, entrance/exit points, platforms, yards, waiting halls, ticket counters, offices, foot over bridges, circulating areas etc. as per site requirement in consultation with RailTel after the proper site survey. In general, 40 cameras have been planned at each station. The site plan shall be approved by RailTel.</li> <li>2. Fix camera as per approved site plan &amp; connect cameras on STP CAT-6 cable (RDSO Specification of IP Based Video Surveillance System Specification no. RDSO/SPN/TC/65/2016 Revision 4.0 or latest with all amendments) to nearest PoE Switch. Approximately, 25 meter STP CAT-6 cable and associated accessories to be provided by bidder along with each camera.</li> </ol>
<b>Commissioning</b>	Free/Open source VMS to be installed in a server (server to be provided by RailTel) for approx. 40 camera/station and display video recording, playback and live display of cameras at stations as well as from any central location through a VMS client. OS for server, if required shall be provided by RailTel.
<b>Warranty and AMC</b>	<p>3 Years warranty after completion of installation and Commissioning</p> <p>5 Years AMC post warranty period</p>

**SOR 4. 4K UHD Bullet type IP Colour Camera:****1. Technical specifications:**

The 4K UHD Bullet type IP Colour Camera shall have the following minimum specifications:-

<b>S. No.</b>	<b>Parameter</b>	<b>:</b>	<b>Specification</b>
i.	Image Sensor	:	1/ 2.8" or larger, Progressive scan, CMOS sensor
ii.	Pixel Resolution	:	8.0 Mega Pixel Ultra HD (3840x2160) or Higher
iii.	Video Compression	:	H.264/MJPEG/ H.265
iv.	Streaming Capability	:	Dual streams with one H.264/H.265 Stream
v.	Video resolutions	:	a) For Main stream : i) Ultra HD (3840x2160) ii)Configurable from Ultra HD to other HD/SD Resolution. b) For Second Stream: Configuration from Full HD to other HD/SD resolutions.
vi.	Resolution and Frame Rate	:	Ultra HD (3840x2160) @ 25 FPS or more with H.264/H.265 compression on one stream & Full HD @ 15 FPS or more with H.264/H.265/MJPEG compression on other stream.
vii.	Minimum Illumination :		
	a) Colour Mode	:	0.5 Lux
	b) Night Mode (Black & White)	:	0.05 Lux
viii.	Shutter speed	:	Maximum shutter speed should be 1/8000 sec or higher
ix.	Signal to Noise Ratio	:	≥ 45 dB
x.	Video Standard	:	PAL
xi.	Motorized varifocal lens	:	Motorized Varifocal IR corrected lens suitable for 4K UHD Bullet type IP colour camera
xii.	Infrared	:	Built in Infrared illuminator with range 20m or more.
xiii.	Lens Mount	:	CS/C mount or any other mount.
xiv.	Day/Night Camera	:	Auto Day/Night Configuration
xv.	Data rate	:	16 Mbps maximum
xvi.	Video Streaming	:	Unicast and Multicast streams
xvii.	Edge Storage	:	Edge Storage slot suitable for 64 GB SD/SDHC/SDXC memory or higher along with

		memory card.
xviii.	Network Connectivity	: Ethernet, 10/100 Base T
xix.	Discovery Interface	: OEM interface to detect the Camera automatically and configure network settings
xx.	Network Protocols	: Suitable and required network protocol stack to work Camera in TCP/IP based Ethernet network environment. (As required for system working)
xxi.	Web Server	: Internal Web server required with embedded operating system.
xxii.	Automatic Gain Control	: Required
xxiii.	Back light Compensation (BLC) or High Light Compensation (HLC) or Automatic White Balance	: Required
xxiv.	Wide Dynamic Range (WDR)	: Required.
Xxv	Two way/Bi-directional Audio Input/Output	: Required for sound detection.
xxvi.	Alarm Inputs / outputs	: 1 input & 1 output
xxvii.	Input Voltage	: 220V AC Voltage(Nominal)/ 24V AC or DC/ 12V DC/ PoE
xxviii.	PoE	: IEEE 802.3af compliant
xxix.	Operating Temperature	: 0°C to + 50°C
xxx.	Humidity	: 20 to 80% RH non- condensing
xxxi.	Ingress Protection	: IP66 or NEMA4 or Better
xxxii.	Enclosure Protection	: Vandal Proof and Impact resistant.
xxxiii.	Regulatory Approvals/ Certifications	: UL or EN or CE or IEC or BIS certification for Safety and CE or FCC Certifications for EMC & Immunity. Note: For EN/IEC/IS/CE/FCC, test certificate to be provided from NABL/NABCB accredited Labs or internationally reputed test agencies along with detailed test reports.
xxxiv.	ONVIF Compliance	: ONVIF Profile 'S'. The quoted models should appear on the ONVIF website and a confirmation certificate for the offered models to be provided.
xxxv.	MAC Address	: The MAC address of the IP Cameras must be registered in the name of OEM supplying the Cameras.

2. **Scope of work:**

<b>Supply</b>	As per technical specification
<b>Installation</b>	<ol style="list-style-type: none"> <li>1. The bidder to prepare a site plan showing exact location of different type of cameras at various locations like parking areas, entrance/exit points, platforms, yards, waiting halls, ticket counters, offices, foot over bridges, circulating areas etc. as per site requirement in consultation with RailTel after the proper site survey. In general, 40 cameras have been planned at each station. The site plan shall be approved by RailTel.</li> <li>2. Fix camera as per approved site plan &amp; connect cameras on STP CAT-6 cable (RDSO Specification of IP Based Video Surveillance System Specification no. RDSO/SPN/TC/65/2016 Revision 4.0 or latest with all amendments) to nearest PoE Switch. Approximately, 25 meter STP CAT-6 cable and associated accessories to be provided by bidder along with each camera.</li> </ol>
<b>Commissioning</b>	Free/Open source VMS to be installed in a server (server to be provided by RailTel) for approx. 40 camera/station and display video recording, playback and live display of cameras at stations as well as from any central location through a VMS client. OS for server, if required shall be provided by RailTel.
<b>Warranty and AMC</b>	3 Years warranty after completion of installation and Commissioning 5 Years AMC post warranty period

**PROFORMA FOR THE LONG-TERM MAINTENANCE SUPPORT**

(To be signed by the O.E.M.)

To  
The Executive Director/Operations,  
RailTel Corporation of India Limited

I / We ..... hereby confirm and accept that against RailTel Tender No. .... , there is a requirement of Long Term Maintenance Support as per Clause 19. We confirm that Long Term Maintenance Support shall be met by us directly or through Authorized partner, as the case may be based on contracts. I / We have gone through the requirement mentioned in the Tender document and shall provide services for the offered supply items.

(Signature of Firm's Authorized Officer)  
Seal

Signature of witness:

1. ....
2. ....

**Performa for Performance Bank Guarantee****PERFORMANCE BANK GURANTEE BOND**

(On Stamp Paper of Rs. One Hundred)

(To be used by approved Scheduled Banks)

In consideration of the RailTel Corporation of India Limited, : Plot No.143, Sector-44, Gurugram-122003

1. (Herein after called RailTel) having agreed to exempt ..... (Hereinafter called “the said Contractor(s)”) from the demand, under the terms and conditions of an Agreement No. .... dated ..... made between ..... and ..... for (hereinafter called “ the said Agreement”) of security deposit for the due fulfillment by the said Contractor (s) of the terms and conditions contained in the said Agreement, or production of a Bank Guarantee for Rs. .... (Rs. .... only). We, ..... (indicate the name of the Bank) hereinafter referred to as “ the Bank”) at the request of ..... Contractor(s) do hereby undertake to pay the RailTel an amount not exceeding Rs. .... Against any loss or damage caused to or suffered or would be caused to or suffered by the RailTel by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.
2. We, ..... Bank do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on demand from the RailTel stating that the amount is claimed is due by way of loss or damage caused to or would be caused to or suffered by the RailTel by reason of breach by the said Contractor(s) of any of terms or conditions contained in the said Agreement or by reason of the Contractor(s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ....
3. We, ..... bank undertake to pay to the RailTel any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) / Supplier(s) in any suit or proceedings pending before any court or Tribunal relating thereto our liability under this present being, absolute and unequivocal.

The payment so made by us under this Bond shall be a valid discharge of our liability for payment there under and the Contractor(s) / Supplier(s) shall have no claim against us for making such payment.

We, ..... Bank further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the RailTel under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till RailTel certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this Guarantee. Unless a demand or claim under the Guarantee is made on us in writing on or before

the ..... (1) ..... We shall be discharged from all liability under this Guarantee thereafter.

We, ..... We, .....  
(indicate the name of Bank) Further agree with the RailTel that the RailTel shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the Agreement or to extend time of to postpone for any time or from time to time any of the powers exercisable by the RailTel against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension to the said Contractor(s) or for any forbearance, act or omission on the part of RailTel or any indulgence by the RailTel to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have affect of so relieving us.

This Guarantee will not be discharged due to the change in the Constitution of the Bank or the Contractor(s) Supplier(s).

(indicate the name of Bank) lastly undertaken not to revoke this Guarantee during its currency except with the previous consent of the RailTel in writing.

Dated the ..... day of ..... 2019

for .....  
(Indicate the name of the Bank)

Witness

1. Signature  
Name
2. Signature  
Name

## Annexure-III

## Consignee Details

SOR	Item	Regions	Qty	Total Quantity
1	Supply, Installation and commissioning of Fixed dome Type IP Colour Camera along with housing and mount and all accessories required for their installation as per RDSO Specification No. RDSO/SPN/TC/65/2016 Revision 4.0 or latest.	NR	486	1224
		WR	192	
		ER	252	
		SR	294	
2	Supply, Installation and commissioning of Bullet Type IP Colour Camera along with housing and mount and all accessories required for their installation as per RDSO Specification No. RDSO/SPN/TC/65/2016 Revision 4.0 or latest.	NR	2187	5508
		WR	864	
		ER	1134	
		SR	1323	
3	Supply, Installation and commissioning of P/T/Z Type IP Colour Camera along with housing and mount and all accessories required for their installation as per RDSO Specification No. RDSO/SPN/TC/65/2016 Revision 4.0 or latest.	NR	243	612
		WR	96	
		ER	126	
		SR	147	
4	Supply, Installation and commissioning of 4K UHD Bullet Type IP Colour Camera along with housing and mount and all accessories required for their installation as per RDSO Specification No. RDSO/SPN/TC/65/2016 Revision 4.0 or latest.	NR	324	816
		WR	128	
		ER	168	
		SR	196	



#### Annexure - IV

The details of 204 Railway stations where the Equipment's/Items are going to install and commission.

Zone and Div.-Wise Bifurcation for A1 and A Category Stations for items to be installed-NR				
Cat ego ry	RailTel- NR	Rly stn	Railway-Zone	Division
A1	4	Chhapra Jn.	NER	BSB
		Amritsar	NR	FZR
		Ludhiana	NR	FZR
		Bareilly	NR	MB
A	77	Fatehpur	NCR	ALD
		Mirzapur	NCR	ALD
		Tundla	NCR	ALD
		Phaphund	NCR	ALD
		Etawah	NCR	ALD
		Lalitpur	NCR	JHS
		Orai	NCR	JHS
		Banda	NCR	JHS
		Mahoba	NCR	JHS
		Ballia	NER	BSB
		Siwan Jn.	NER	BSB
		Deoria Sadar	NER	BSB
		Azamgarh	NER	BSB
		Belthara Road	NER	BSB
		Mau Jn.	NER	BSB
		Rudrapur City	NER	IZN
		Kathgodam	NER	IZN
		Basti	NER	LJN
		Khalilabad	NER	LJN
		Gonda Jn.	NER	LJN
		Muzaffarnagar	NR	DLI
		Panipat	NR	DLI
		Sonipat	NR	DLI
		Karnal	NR	DLI
		Ballabgarh	NR	DLI
		Faridabad	NR	DLI
		Gurgaon	NR	DLI
		Rohtak	NR	DLI
		Pathankot	NR	FZR

	Firozpur Cantt.	NR	FZR
	Beas	NR	FZR
	Phagwara	NR	FZR
	Jalandhar City	NR	FZR
	Jalandhar Cantt.	NR	FZR
	Chakki Bank	NR	FZR
	Udhampur	NR	FZR
	Janghai	NR	LKO
	Akbar Pur	NR	LKO
	Shahganj	NR	LKO
	Faizabad	NR	LKO
	Jaunpur	NR	LKO
	Unnao	NR	LKO
	Barabanki	NR	LKO
	Rae Bareli Jn.	NR	LKO
	Partapgarh	NR	LKO
	Sultanpur	NR	LKO
	Ayodhya	NR	LKO
	Bhadohi	NR	LKO
	Rampur	NR	MB
	Shahjahanpur	NR	MB
	Hardoi	NR	MB
	Moradabad	NR	MB
	Chandausi	NR	MB
	Hapur	NR	MB
	Roorkee	NR	MB
	Jagadhri	NR	UMB
	Rajpura Jn.	NR	UMB
	Kalka	NR	UMB
	Bathinda Jn.	NR	UMB
	Patiala	NR	UMB
	Sirhind Jn.	NR	UMB
	Bhilwara	NWR	All
	Rani	NWR	All
	Aburoad	NWR	All
	Falna	NWR	All
	Marwar Jn.	NWR	All
	Lalgarh	NWR	BKN
	Shri Ganganagar	NWR	BKN
	Suratgarh	NWR	BKN
	Hanumangarh Jn.	NWR	BKN
	Phulera	NWR	JP
	Alwar	NWR	JP

		Bandikui	NWR	JP
		Jaipur Gandhinagar	NWR	JP
		Pali Marwar	NWR	JU
		Nagaur	NWR	JU
		Barmer	NWR	JU

**Zone and Div.-Wise Bifurcation for A1 and A Category Stations for Items to be installed-SR**

Category	RailTel-SR	Rly stn	Railway-Zone	Division
A1	0			
A	49	Kakinada Town	SCR	BZA
		Samalkot Jn.	SCR	BZA
		Tuni	SCR	BZA
		Kurnool Town	SCR	HYB
		Jalna	SCR	NED
		Nagarsol	SCR	NED
		Manchiryal	SCR	SC
		Chengalpattu Jn.	SR	MAS
		Jolarpettai Jn	SR	MAS
		Katpadi	SR	MAS
		Kovilpatti	SR	MDU
		Tuticorin	SR	MDU
		Virudhunagar Jn	SR	MDU
		Kanhangad	SR	PGT
		Kannur	SR	PGT
		Kasargod	SR	PGT
		Mangalore Central	SR	PGT
		Palakkad Jn.	SR	PGT
		Payyannur	SR	PGT
		Shoranur Jn.	SR	PGT
		Thalassery	SR	PGT
		Tirur	SR	PGT
		Vadakara	SR	PGT
		Erode Jn	SR	SA
		Karur Jn.	SR	SA
		Salem Jn	SR	SA
		Tiruppur	SR	SA
		Kumbakonam	SR	TPJ
		Mayiladuthurai Jn.	SR	TPJ
		Thanjavur Jn	SR	TPJ
		Villupuram Jn.	SR	TPJ

	Alappuzha	SR	TVC
	Aluva	SR	TVC
	Chengannur	SR	TVC
	Ernakulam Town	SR	TVC
	Kanniyakumari	SR	TVC
	Kayankulam Jn	SR	TVC
	Kottayam	SR	TVC
	Nagercoil Jn	SR	TVC
	Tiruvalla	SR	TVC
	Davangere	SWR	MYS
	Shimoga Town	SWR	MYS
	Bangalore Cantt.	SWR	SBC
	Bangarpet	SWR	SBC
	Kengeri	SWR	SBC
	Krishnarajapuram	SWR	SBC
	Sri Sathya Sai Prashanthi Nilayam	SWR	SBC
	Bijapur	SWR	UBL
	Dharwad	SWR	UBL

**Zone and Div.-Wise Bifurcation for A1 and A Category Stations for items to be installed-ER**

Category	RailTel-ER	Rly stn	Railway-Zone	Division
A1	2	Mughalsarai Jn.	ECR	MGS
		Gaya Jn.	ECR	MGS
A	40	Bhadrak	ECOR	KUR
		Khurda Road	ECOR	KUR
		Jajpur-Keonjhar Road	ECOR	KUR
		Palasa	ECOR	KUR
		Brahmapur	ECOR	KUR
		Srikakulam Road	ECOR	WAT
		Parashnath	ECR	DHN
		Buxar	ECR	DNR
		Bakhtiyarpur Jn.	ECR	DNR
		Patna Sahib Jn.	ECR	DNR
		Ara Jn.	ECR	DNR
		Kiul Jn.	ECR	DNR
		Mokama	ECR	DNR
		Jamui	ECR	DNR
		Rajendra Nagar(T)	ECR	DNR
		Sasaram Jn.	ECR	MGS

		Anugraha Narayan Road	ECR	MGS
		Dehri-On-Sone	ECR	MGS
		Khagaria Jn.	ECR	SEE
		Barauni Jn.	ECR	SEE
		Madhupur	ER	ASN
		Bandel	ER	HWH
		New Farakka	ER	HWH
		Jamalpur	ER	MLDT
		Naihati Jn.	ER	SDAH
		Coochbehar	NFR	APDJ
		Purnea Jn	NFR	KIR
		Jogbani	NFR	KIR
		Raiganj	NFR	KIR
		Kamakhya	NFR	LMG
		Silchar	NFR	LMG
		Bongaigaon	NFR	RNY
		Barpeta Road	NFR	RNY
		Rangiya Jn.	NFR	RNY
		Dibrugarh Town	NFR	TSK
		Tinsukia	NFR	TSK
		Jorhat Town	NFR	TSK
		Bhilai Power House	SECR	R
		Shalimar	SER	KGP
		Hatia	SER	RNC

**Zone and Div.-Wise Bifurcation for A1 and A Category Stations for items to be installed-WR**

Category	RailTel-WR	Rly stn	Railway-Zone	Division
A1	0			
A	32	Akola	CR	BSL
		Amravati	CR	BSL
		Badnera	CR	BSL
		Burhanpur	CR	BSL
		Chalisgaon	CR	BSL
		Shegaon	CR	BSL
		Ballarshah	CR	NGP
		Chandrapur	CR	NGP
		Wardha	CR	NGP
		Kolhapur	CR	PA

	Ahmednagar	CR	SUR
	Latur	CR	SUR
	Bina	WCR	BPL
	Habibganj	WCR	BPL
	Hoshangabad	WCR	BPL
	Maihar	WCR	JBP
	Pipariya	WCR	JBP
	Rewa	WCR	JBP
	Bharatpur	WCR	KOTA
	Gandhidham	WR	ADI
	Mahesana	WR	ADI
	New Bhuj	WR	ADI
	Palanpur	WR	ADI
	Viramgam	WR	ADI
	Navsari	WR	BCT
	Udhana	WR	BCT
	Valsad	WR	BCT
	Vapi	WR	BCT
	Bhavnagar Terminus	WR	BVC
	Veraval	WR	BVC
	Chittorgarh Jn.	WR	RTM
	Nagda	WR	RTM

**(Jagdeep Singh)**  
**Executive Director/Operations**  
**For & on behalf of RailTel Corporation of India Ltd.**