उत्तर प्रदेश पुलिस रेडियो मुख्यालय, महानगर, लखनऊ – 226006

संख्याः पी–609/2025 दिनांक :मई 02,2025

कार्यालय ज्ञाप

सर्वसम्बन्धित को सूचित किया जाता है कि वित्तीय वर्षः 2025–26 हेतु क्रय किये जाने वाले संचार उपकरण, जिनकी (QR/TD) Qualitative Requirement/Trial Directive, BIS (Bureau of Indian Standards) रक्षा मंत्रालय, गृह मंत्रालय या अन्य मंत्रालय (केन्द्र/राज्य) द्वारा उपलब्ध नही है, निम्न उपकरणों के (QR/TD) Qualitative Requirement/Trial Directive यू0पी0 पुलिस की वेबसाइट पर अपलोड किये जा रहे हैं–

1. सिंगल फ्रिक्वेंसी रिपीटर
2. पी0ओ0सी0 (पुश टू टाक ओवर सेल्यूलर)

अतएव, उपरोक्त उपकरणों से सम्बन्धित ओ0ई0एम0 से अनुरोध है कि यू0पी0 पुलिस के वेबसाइट पर अपलोड किये गये (QR/TD) Qualitative Requirement पर अपनी आपत्तियां ई–मेल आईडीः radiohq@nic.in पर 15 दिवस के अन्तर्गत उपलब्ध कराना सुनिश्चित करें।

2.6.25

(सुनील कुमार शुक्ल)
उपमहानिरीक्षक (पुलिस दूरसंचार) प्रशिक्षण
उ0प्र0 पुलिस रेडियो मुख्यालय,
महानगर–लखनऊ।

RFP for

4G / LTE Communication Network

for

Uttar Pradesh Police

1. **Introduction:**

1. The Uttar Pradesh Police Department, as one of the largest and most dynamic law enforcement agencies in India, requires robust, real-time communication solutions to enhance operational efficiency, ensure officer safety, and respond swiftly to emergencies across urban and rural terrains. In response to this need, we propose the deployment of a **Push-to-Talk over Cellular (PoC)** communication system—a next-generation solution that leverages 4G/5G and broadband networks to provide mission-critical voice, video, and data connectivity.

2. **Scope of Work:**

1 The Scope of Work shall include design, supply, delivery at site, unloading, any other services associated with the delivery of equipment and materials, hardware and software, product accessories etc.

2. Providing **Services to the equipment/Hardware/Software/etc. supplied under GeM contract for the functioning of** the entire system (with no hidden cost) **for a period of 03 year w.e.f date of acceptance of the system.**

3. To install and commission the LTE servers on cloud. LTE server will have all software required for smooth functioning of the system and uptime to be > 99.9 %.

4. Installation, commissioning, software optimization etc.

5. Providing warranty/ post warranty services for the equipment.

6. The successful bidder shall assume full responsibility of all the supplied hardware, equipment and software for the warranty period.

7. The related licenses for System, Servers, Dispatch Consoles and Handheld sets etc. shall be the responsibility of the bidder from all government organizations.

8. M2M SIM cards for Handheld Sets with 3 year subscription shall be the responsibility of finally selected bidder as part of the bid.

9. Enabling GIS application with locations of all users.

10. The communication must be secure based on AES 256 bits encryption.

11. The hand-held devices would be used to send/receive short video clips, images, messaging, Push-To-Talk for audio.

12. Dispatch capabilities including management of user groups, user permission, etc. as well as management of situations in the field by viewing video clips, personnel location, and voice communications with the police personnel

13. Recording, archiving and retrieval of the information and use as evidence as needed.

14. **Open standard and interoperability:** The SUPPLIER will provide all equipment, hardware and software based on open standard and the handheld devices will be interoperable with the similar products manufactured by other OEMs with open standards.

15. Prequalified bidders may be called for presentation and demonstration of the offered solution

16. The bidders participating in the Tender must submit a scanned copy of list of their owners, Directors, partners, etc. and a certificate to the effect that the firm is neither blacklisted by any Government nor litigation with Department in the last 3 years as on the date of Bid submission.

Minimum Technical Specifications of POC System:

S. No	Specification
1	**CLOUD SERVER**
	a) Minimum Cloud Server specs : Intel Xeon Gold processor, 32 Core, 64 GB RAM, 4 TB SSD Storage, Dual Power supply). These should support IMS / CORE / MCX / Geo Spatial Map / Command & Control Centre / Network Management system / limited recording facility, and all services intended in the tender.
2	**SERVER SOFTWARE**
	a) Share resources among clients on request and provides reliable communication with excellent performance. it should have the following sub-systems with a provision to install them in a single server or in Different server whenever required. i) IMS- Group Management Server (GMS) ii) Identity Management Server (IdMS) iii) Key Management Server (KMS) iv) Configuration Management Server (CMS) v) Participating Server vi) Controlling Server vii) Media Control Server (MCS) Vii) Geo Spatial MAP Server viii) MCX/ PPDR Server
3	The System shall support the following minimum Mission Critical Push to Talk (MCPTT) functionalities as mentioned below:
	I. User authentication and service authorization.
	II. Group, individual, priority calls, and Dynamic group call.
	III. Messages, file exchange, and alerts.
	IV. Should support Mission critical bearers as per 3GPP. No OTT based as per DCPW Guidelines, individual key management.
	V. GPS location, GPS route, indoor localization.
	VI. Geo-fencing & Advanced Geo-Fence (TX, RX Auto Disable upon breach of Geo Fence).
	VII. Remote camera and mic control.
	VIII. Push to video for situational awareness.
	IX. Voice recording and call history.
	X. Ease of administration.
	XI. Task management system.
	XII. Multiplatform clients and accessories.
	XIII. Emergency solution alarming, man down, lone worker protection.
	XIV. Broadcasting.
4	**DATA SECURITY**: Should provide the ability to selectively manage access to a variety of services and features and administer the rights of each user and group.
5	**SCALABILITY**: Should be enormously scalable and can run on a range of computing hardware. The system architecture should support multi-server connectivity and be designed with cost efficiency and system redundancy in mind.
6	**DATA & VOICE ENCRYPTION**: The solution should support a full encryption portfolio that provides persistent protection of voice and data for a higher security level of communication.
7	**OEM Authorisation:** Vendor shall obtain and submit the Tender specific OEM Authorisation Certificate and shall get the necessary support of OEM for the successful commissioning of the system and further support for carrying out necessary updates/modifications required on a later date. Certificate should be enclosed.
8	**FLEET MANAGEMENT:** The server should provide monitoring and tracking of tools. Ability to trace and record the movements of mobile assets and workforce, store accurate GPS data and keep voice and data recordings in history for at least 6 months.

9	**Web-based software:** Web-based application to control the resources and features on servers. This allows flexible maintenance and system expansion, deployment of new servers and nodes. In particular, acts as an administrator to create, delete, and edit users, teams, and groups. It also gives you tools to manage the set of functionalities for each individual user. All the features that Mobile client software and Dispatcher provide can be individually managed, enabled, and disabled through Commander Software.
10	Server configuration: The server should configure multiple server ports at client devices.
11	**Specifications of Mobile Client Software for POC Application**
a	Should be designed for all types of smart phones or tablets. This should run on IP networks (4G/5G/wi-fi) powered by the operating systems: Android/ iOS and Windows/ Linux.
b	Should grant users maximum operational capability with a user-friendly interface and keep high availability even on slow data networks.
c	This should provide always-on PTT operation, messaging, status messages, voice recording, and GPS location management.
d	It can run alongside your other business applications, enabling device integration capabilities.
e	It should support the following minimum features:
	a. Group call
	b. Individual call
	c. Priority call
	d. Emergency call and Lone worker protection
	e. Status messages, Text, and Data Exchange
	f. End-to-End encryption
	g. Dynamic group call
	h. Remote control
	i. Video
	j. Voice recording and call history
	k. GPS localization
	l. GPS history tracker
	m. GPS route
	n. Task management
	o. Indoor localization
12	**Specifications of Dispatcher Software (Command and Control Centre Solution)**
	It is a command and control center solution that provides powerful and flexible features. It can be deployed as a desktop application on minimum 43 Inch Windows Touch Screen Panel. It should support the following minimum features:
	a. Group call
	b. Individual call
	c. Priority call
	d. Dynamic group call
	e. Emergency call receiving
	f. Remote control
	g. Status messages, Text, and Data Exchange
	h. Lone worker protection
	i. End-to-End encryption
	j. Voice recording and call history
	k. Map tools
	l. GPS localization
	m. Guard tour
	n. Task management
	o. Call transfer by drag and drop of the icon.
13	**Specifications of Voice Logger and Call Recorder Software**
a	It should support secure recording and replay of voice, video and data communications that occurred within the POC network.
b	It should have a set of tools to sort, search, and replay voice records, view message history, and monitor user activity in channels.

c	It should provide the ability to analyse user movements based on the GPS location history.
d	All data and voice records must be stored on the server.
e	Should have provision to back up all voice communication on a local drive.
f	Designed to be a user-friendly application, it offers easy ways to navigate recorded data. It should support the following features:
g	**GPS recording:** An operator can quickly access the user movement history and keep track of specific users. The coordinates are displayed with reference to the time of change. It should support export of GPS data so that you can import the data into mapping software, such as Google Earth, OpenStreetMap, etc. to create a 2D virtual artwork on a large scale.
h	**Channel changing**: To view users' movements through channels. This feature allows you to track a user's actions, the names of the visited channels, and the times of the visits.
i	**Name changing:** To view the history of login changes. This helps to keep track of the activity of users who might not be recognized otherwise.
j	**Connection status:** To view the login history of POC clients and know exactly who logged in and out at what times.
k	**Individual & group call recording:** It can track every individual and group call and export them to files. The call details are also available: time, duration, channel data, login, and alias. This data can be provided by both the calling user and the answering user.
l	**Message recording:** To view data about all written communication on a server. We can view the sender and recipient information and read the text of each message. All emergency messages are highlighted in red to help quickly evaluate the severity status. We can export the text messages or transferred files to a local drive.
m	**Emergency calls recording:** All emergency calls should be tracked and recorded and can be examined for compliance with applicable procedures in critical situations. Data for each call is displayed and can be exported.
n	**Data export:** It should support the export of all data and allow you to download recordings.
14	**System Expansion/Scalability**
a	Any future system expansions to the POC design & solution within the area defined will be supported under mutually agreed terms and conditions. The proposed architecture will be capable of handling up to 2000 users and scalable up to 5000 radio users. These users will be inclusive of all users at Uttar Pradesh Police department.
b	Proposed MCPTT solution will have capabilities to integrate with sub system e.g. Voice Telephony in future .The bidder shall conduct a thorough assessment and audit before providing the solution & support services.
c	Option of creating Unlimited network for specific users groups and multiplr groups within each network .Independent network with unique login for each districts/users and within each network multiple groups with custom rules and notifications
d	System design shall guarantee an operational life of at least 5 years and guaranteed availability of service, technology, software updates, and support for at least 5 years from the date of the start of operations.
e	Provide specifications and as-built documentation for all POC hardware and software components with test plans, test scripts, system testing, and commissioning.
f	All issues such as coverage, reliability, call drop, quality of voice, latency, downtime, etc., shall be noted, measured, and remedied by the bidder to the satisfaction of Uttar Pradesh Police. All such issues will be provided with root cause analysis and evidence of satisfactory closure.
15	System Performance Requirements
a	GPS accuracy — min. 5 meters or better, GPS cadence — 30 Seconds.
b	Database Transactions — 95% ≤ 0.5 sec. or better
16	**Standards & Certifications**
a	MCPTT/POC Solution should be certified for Compliance with the following standards and certifications:
b	Google play and IOS App store
c	MCPTT Client should have successfully passed the review and is available in the store.
d	OEM's MCPTT/POC Platform should have an India-based on-premises & cloud installation.

Hand Held POC Device Specifications

Sl. No.	Specification	Minimum Requirement Description
1	Processor	Qualcomm Snapdragon, Octa core, 2.2 GHz or better
2	Memory	RAM at least 4 GB or higher
3	Storage	At least 64 GB or higher
4	Operating System	Android Enterprise with 15 or higher OS version upgradable to Android Enterprise 16.
5	Security	• Certified as Android Enterprise Recommended (AER) Rugged Device. • OEM should provide OS security updates every quarter for a minimum of 3 years after OS End of Service. • Password of the device should be set and reset by the central IT helpdesk. • Multi-level security for remotely accessing the application. • Provision to disable unwanted Google applications, data transmission. Application lock; no third-party application should be installed. • Ability to fetch IMEI number.
6	Generation	4G, LTE, True 5G
7	GSM	Yes, Nano SIM or better
8	Ruggedness	• IP 67 or better • Minimum 4 ft. drop • MIL-STD 810G
9	Screen Display	• 5 inch or better • Minimum 450 NITS and above • Corning Gorilla Glass display with both finger & stylus support.
10	Display Resolution	720 x 1600 pixel or better
11	Voice	• Voice recording facility • Built-in microphone • Built-in Speaker • Voice calling from the device
12	Dedicated Hard (Physical) PTT Button	Dedicated hard PTT button on the device
13	Camera	>= 5MP Front & 10 MP rear with LED Flash (integrated)
14	Speaker output	02 Watt or better
15	Hands free Support	Hands free kit and Pouch to be provided.
16	Keyboard	Virtual on screen
17	GPS	Inbuilt GPS
18	Audio Playing Format	MP4, wav files format or better
19	Environment Specification	0degree C to 50 degree C or better
		• Humidity 95% RH, Non-condensing
20	Ports	USB C 2.0 and above
		• Charging port, Headset port / BT Support
		• DC charging support, etc.
21	Expansion Slots	Integrated
22	Adapter	AC Input: 150-240V or better
23	Bluetooth	Bluetooth 5.1 BLE & NFC or better
24	Power Supply	230V, 50 AC supply
25	Battery	• Minimum 5,000 mAh capacity.
		• User Removable / Replaceable / Rechargeable battery

26	Battery backup Time	8 hours or better
27	Charger	Electric Charger (DC charger). Built-in rechargeable battery.
28	Carrying Pouch	Yes
29	Wireless	Minimum 802.11 or better
30	IPv6 Compliant	Yes
31	Weight	Not more than 300 Grams including battery
32	Mobile Device Monitoring	• Access User Status and Statistics or ability to review mobile user and mobile environment activity, such as sent/received items, last connection time, etc. • Ability to disable access to public App Stores based on a policy configuration. • Configuration Policies to allow individual components of the mobile device to be enabled or disabled. • Login and logout support and provide secured access through unique username and password.
33	Certification	Certification from Bureau of Indian Standards (BIS).
34	Warranty	3 Year.

****End of Document****

Minimum Technical Specifications Static Single Frequency (SFR) Mess Repeater Station

Sl. NO.	Parameters	Specification	Trial Directive
1. General specifications			
1	Technology	DMR	
2	Channel Capacity	Min 30 or better	Third Party/Board of Officers
3	Frequency Range	VHF (136-174MHz)	
4	Standby Current	<1 A	
5	Channel Spacing	12.5KHz	
6	Emission	7K60FXW 7K60FXE 7K60FXD	
7	Digital Modulation	4FSK or Equivalent	
8	Vocoder	AMBE+2	
9	Frequency Stability	± 1ppm	
10	Shock & Vibration	MIL-STD-810C/D/E/F/G	
11	Dust & waterproof	IP56 or better	
12	Antenna Impedance	50 ohm	
13	Moisture Proof	MIL-STD-810C/D/E/F/G or IP-56	
14	ESD OR EMI/EMC	IEC 61000-4-2Level 4) ±8kV (contact discharge) ±15kV (Air Discharge) OR ETSI EN301 489-1 & ETSI 301 489-5	
15	Storage Temperature	-40°C to + 65°C	
16	Operating Temperature	-30°C to + 55°C	
17	Power Input	12 Volt DC (10.8 to 15.6 Volt DC)230 VAC +_10%, 50Hz + 1% Hz with float charger. Automatic switch over from AC to DC during mains failure.	
2. Receiver			
18	Sensitivity	Digital: 0.30 micro V @ 5% BER or better	Third Party/Board of Officers
19	Intermodulation Response rejection	⩾70dbm	
20	Spurious Response Rejection	⩾70dbm	
21	Blocking	84dB	
22	Adjacent Channel Selectivity	ETSI: 60dB@12.5KHz/70dB@25khz	
3. Transmitter			
23	Tx Power	⩾ 20w Adjustable	Third Party/Board of Officers
24	Adjacent Channel Power	60dB@12.5KHz	
4. Features			
25	High Spectrum Efficiency	Based on TDMA ,one frequency can be used to make calls and route voice at the same time, greatly saving frequency resources	Third Party/Board of Officers
26	Chaining Repeater	Range enhanced by Multiple Repeaters, using same frequency in VHF Network (without any additional Network help.)	
27	Inbuilt GPS	Yes	
28	Warranty (Comprehensive)	03 Year	OEM Certification