

GOVERNMENT OF INDIA
(Ministry of Home Affairs)
COMMUNICATION & IT DIRECTORATE
CENTRAL RESERVE POLICE FORCE
EAST BLOCK-7, SEC-1, R.K. PURAM, NEW DELHI-110066
(Tele/Fax No-011-26109038, Email:- comncell@crpf.gov.in)

No. B.V-7/2025-26-C(3DLS)-QR CELL

Dated, the 17 July'2025

To

1. The DsG: AR, BSF, CISF, ITBP, NSG, SSB and BPR&D
2. Director, DCPW

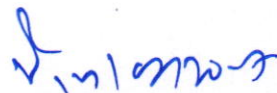
Subject: QRs/TDs OF "3D LASER SCANNING AND IMAGING SYSTEM" REGARDING.

I am directed to refer to the subject mentioned above and to say that the QRs/TDs of "3D Laser Scanning and Imaging System" have been approved by the DG CRPF after due deliberations as per recommendations of CAPF's sub-group and experts from DCPW.

2. QRs/TDs of "3D Laser Scanning and Imaging System" has forwarded earlier vide letter No. B.V-7/2023-24-C(QRs) dated 26/12/2023 is rescinded

This is for favour of information and further needful action please.

Encl:-As above



(Megh Raj)

DIG (Equipment)
Communication & IT Branch
Directorate General C R P F


No. B.V-7/2025-26-C(3DLS)-QR CELL

Dated, the 17 July'2025

Copy to:-

1. Mrs. Sugandhi, Technical Director, North block, MHA (e-mail ID: mpsugandhi@nic.in) with request to upload the QRs/TDs of "3D Laser Scanning and Imaging System" on MHA website and QRs/TDs of "3D Laser Scanning and Imaging System" has forwarded earlier vide letter No. B.V-7/2023-24-C(QRs) dated 26/12/2023 is rescinded please.

Encl:-As above









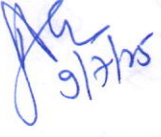
(Megh Raj)

DIG (Equipment)
Communication & IT Branch
Directorate General C R P F


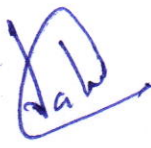
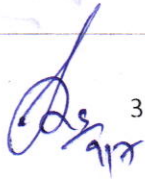



QRs/TDs of 3D Laser Scanning and Imaging System

S/No.	Specifications	Trial Directives
Hardware (3D Laser Scanning and Imaging System Type-Terrestrial)		
1	System must provide automatic 3D Scanning with 360 degree horizontal 280 degree or better vertical field of view.	Firm will submit OEM Certificate.
2	Ranging Accuracy 3mm or better at 10 mtr with user selectable resolution settings.	Firm will submit OEM Certificate.
3	(a) System must capture objects at minimum range of 0.65 mtr or lesser and 100 mtr or more from axis of scanner (Radial Range). (b) System should have scan time of less than 5 minutes per position that should include 150 Mega pixels or better panoramic image full dome capture with HDR Image option for up to 5X exposure. (c) Data Acquisition rate must be minimum 5,00,000 points per second or better.	BOOs will check practically for (a). For (b) & (c), Firm will submit OEM certificate.
4	System must use Waveform/ phase shift/ time of flight Digitization Technology for better results and provide encrypted security (Digital Hashing) to all raw scans in scanner.	Firm will submit OEM certificate.
5	System must support at least IP54 rating for dust and water protection.	Firm will submit certificate of OEM /Certificate of any Govt Lab, NABL accredited Lab or ILAC.
6	System must provide onsite registration, viewing & navigation of image and point cloud data.	BOOs will check practically
7	System must operate on portable single/ dual Li-ion battery or better technology with minimum 3 hrs of continuous operation or better and provide spare battery bank having the same backup with suitable battery charger.	BOOs will check practically
8	System must support universal external memory like standard SDXC card/ MicroSD card /standard 3.0 pendrive or better.	Firm will submit OEM certificate



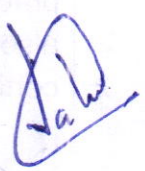
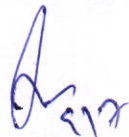



S/No.	Specifications	Trial Directives
9	System must be Portable and easy to deploy preferably not more than 6kg \pm 10% (System + battery)	BOOs will check practically
10	Capture instrument should support remote operation through Wi-Fi or better wireless connectivity between laptop/ tablet/ Mobile and instrument.	BOOs will check practically.
11	The scanner shall be supplied with a light weight carbon Fibre Tripod, capable of handling 18kg of payload weight.	BOOs will check practically.
12	The transportation box of the eqpt (with all accessories) should be waterproof with IP 65 or better.	Firm will submit certificate of OEM /Certificate of any Govt Lab, NABL accredited Lab or ILAC.
13	Must provide automatic / manual point density control.	BOOs will check practically.
14	Laser Class-1 must comply with IEC 60825-1:2014	Firm will submit certificate of OEM /Certificate of any Govt Lab, NABL accredited Lab or ILAC.
15	Laser used to scan should be human safe.	Firm will submit certificate of OEM /Certificate of any Govt Lab, NABL accredited Lab or ILAC.
16	<u>Data Storage</u> : Combined storage of minimum 256 GB (Internal/ External)	BOOs will check practically.
Software (3D Laser Scanning and Imaging System)		
17	System must provide data visualization/ Viewing and modelling capabilities such as creation of 2D/3D drawing and creation of CAD objects.	BOOs will check practically
18	System must support data registration, computation, Security planning, analysis and modelling, web publication, animation and 3D modelling.	BOOs will check practically
19	System must allow publication of point cloud into web-based/ local server/ computer format for online collaboration, support Hyperlink, measurement, and markup inside web browser.	BOOs will check practically
20	System must come with centralized storage for high speed point cloud rendering administrative privileges which allows a user to grant access to a particular project.	BOOs will check practically

S/No.	Specifications	Trial Directives
21	Software system must be able to handle unlimited size of point cloud database.	BOOs will check practically
22	System must provide sophisticated crash & post event reconstruction tools.	Firm will submit OEM certificate.
23	System must provide minimum three registration methods and algorithms that can be used independently or in conjunction, namely: - (a) Cloud-to-cloud matching. (b) Known targets (c) Automatic Visual Registration Tools.	BOOs will check practically & Firm will also submit OEM certificate.
24	System must provide the ability to register and superimpose internal images automatically and external images on scanned data for photo-realistic presentation.	BOOs will check practically.
25	(Optional) Provide various scene investigation tools like Bullet Trajectory, Security Halo, Animation for reconstruction, Point Cloud overlay on images for measurement and analysis, view point analysis, wizard for creating finished diagrams, sketching mode. (As per user requirement)	BOOs will check practically.
26	Should support extraction of 2D drawings from 3D models and scanned data.	BOOs will check practically.
27	Should have direct import & export of major 2D/ 3D model formats necessary for rendering & viewing	BOOs will check practically & Firm will also submit OEM certificate.
28	Must provide 3D limit box to reduce point density.	BOOs will check practically.
29	Must provide cloud to cloud registration capabilities.	BOOs will check practically.
30	Must support Dynamic level of detail management, displaying different levels of scanned data & 3D model for fast visualization.	BOOs will check practically.
31	Take measurement on scanned data, 3D models; slope distances; volumes and surface areas	BOOs will check practically.
32	Must support visualization on mobile/ tablet in online/ offline mode	BOOs will check practically.
33	Must provide scan orientation and support integration with Industrial GIS Platforms.	BOOs will check practically & Firm will also submit OEM certificate.

S/No.	Specifications	Trial Directives
34	Must support integration with 3D modelling software like sketch up Pro, AutoCAD, Autodesk, Maya, 3DS Max, Blender, Modo, Archi CAD Solidworks, BricsCAD, V-Ray, etc.	BOOs will check practically & Firm will also submit OEM certificate.
35	Must support visualization with or without server.	BOOs will check practically & Firm will also submit OEM certificate.
36	Must be able to create a web share of the captured/ Processed Data to be reviewed at any remote location on any normal configuration of Laptop online/ offline without any software installation.	BOOs will check practically.
37	Point cloud processing software should support all formats of standard point cloud data outputs like e57, PTS and Xyz.	BOOs will check practically.
38	Application should support registration of multiple captures/ scans/images automatically	BOOs will check practically.
Accessories		
39	Laptop/Portable Computing Device for data processing must have following specs: - (a) SSD – 2TB or better (b) Processor – i9 with 10 core or better. (c) RAM – 64GB or better (d) OS – Window 11 or latest version (e) Advance Graphic Card (as per user requirement) (f) NAS – 200 TB with redundancy and security feature and data management facility. (g) Computing device should be compatible with 3D Laser Scanning device.	BOOs will check practically.
Service / Support		
40	Training: The bidder shall arrange to provide Onsite training for Anti - Terrorism, VIP Security Planning, Indoor and outdoor Crime scene scanning and shall essentially conduct a workshop for the same. (As per user Requirement) Firm will provide operating and technical manual.	Firm will submit under taking certificate.
41	Service / Support of the equipment should be provided on PAN India basis.	Firm will submit OEM certificate.
42	OEM Should essentially have a local office in India.	Firm will submit OEM certificate.

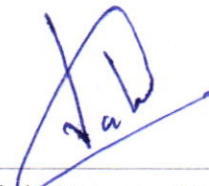
S/No.	Specifications	Trial Directives
43	Warranty-03 Years or More.	Firm will submit OEM certificate.
44	After Sales Service and Support- Minimum 05 Years after warranty.	Firm will submit OEM certificate.



(T. G. Naidu)
SI (Exc), CISF



(Sandeep Kumar)
WO, Assam Rifles



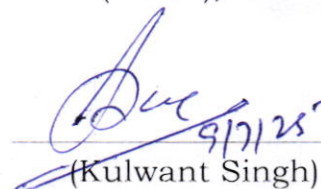
(Satish Kumar Mahla)
AC (Comn), SSB



(Ujjwal Kumar Singh)
AC (QR), CRPF



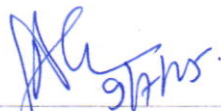
(Laljee Ram)
JAD, DCPW



(Kulwant Singh)
DC, ITBP



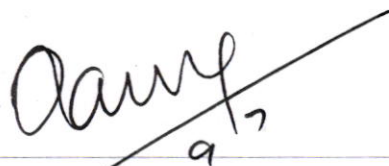
(Rakesh Anand)
2 IC, BSF



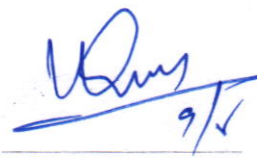
(Rakesh Sharma)
GC, NSG



(P.C. Jha)
DIG (Comn), CRPF



(Vijay Kumar)
IG (Comn & IT), CRPF



(Vitul Kumar, IPS)
SDG (OPS), CRPF

✓
Approved/Not Approved



(Gyanendra Pratap Singh, IPS)
DG, CRPF