

संख्या. पी-63013/199/01/2024/2024/मोड-1/सीसुबल

3021-26

भारत सरकार, गृह मंत्रालय
महानिदेशालय सीमा सुरक्षा बल
(रसद निदेशालय: आधुनिकीकरण सैल)
(Email-comdtord@bsf.nic.in)
(Fax: 011-24367683)

ब्लाक संख्या . 10,
सीजीओ काम्पलैक्स,
लोधी रोड, नई दिल्ली-03
दिनांक 13- जून 2024

सेवा में,

महानिदेशक:- आसाम राईफलस (through LOAR), केन्द्रीय ओद्योगिक सुरक्षा बल,
केन्द्रीय रिजर्व पुलिस बल, भारतीय तिब्बत बोर्डर पुलिस, सशस्त्र सीमा बल,
राष्ट्रीय सुरक्षा गार्ड एवं पुलिस अनुसन्धान एवं विकास ब्योरो

विषय: अनुमोदित गुणात्मक आवश्यकता / परीक्षण निर्देशों का प्रेषण

तकनीकी विशेषज्ञों के उप समूह द्वारा किए गये सूत्रीकरण एवं महानिदेशक सीमा सुरक्षा बल द्वारा अनुमोदित "Software of GIS for Image Surveillance and Analytics" के संशोधित गुणात्मक आवश्यकता/परीक्षण निर्देशों को आपकी अग्रिम कार्यवाही हेतु प्रेषित किया जाता है।

संलग्न : उपरोक्तनुसार

इन्द्र देव सिंह
13/6/24
(इन्द्र देव सिंह)
उप महानिरीक्षक (रसद)

प्रतिलिपि :-

1. तकनीकी निदेशक
The Technical Director
राष्ट्रीय सूचना-विज्ञान केन्द्र, नोर्थ ब्लाक,
गृह मंत्रालय, नई दिल्ली
NIC, North Block, MHA
New Delhi, (द्वारा ई-मेल)
(ई-मेल पता : mpsugandhi@nic.in)
: आपसे अनुरोध है कि उक्त उपकरण के सूत्रीकरण किये गये गुणात्मक आवश्यकता / परीक्षण निर्देशों को गृह मंत्रालय की वैबसाईट (MHA website Division of MHA+ - Police Modernization Division- Qualitative Requirements-Qualitative Requirements of Machinery & Eqpt Items with Surveillance item) पर अपलोड करने का श्रम करें।
2. SO (IT), North Block, MHA
(Through E-mail)
(E-mail address: soit@nic.in)
: कृपया उपरोक्तानुसार कार्यवाही करने का श्रम करें।
3. तकनीकी विंग, सीमा सुरक्षा बल
: कृपया उक्त उपकरण के गुणात्मक आवश्यकता/ परीक्षण निर्देशों को सीमा सुरक्षा बल की वैबसाईट पर अपलोड करने का श्रम करें।
4. Sh. Anoop Dhanvijay, Director- Buyer
Management (CPSEs & Central
Ministries), GOI. Ministry of
Commerce & Industry, Government
e-Marketplace. Jeevan Tara
Building.5-Parliament Street. New
Delhi-110001
E-mail:- anoop.dhanvijay@gem.gov.in
For info with request to upload the approved QRs & TDs of "Software of GIS for Image Surveillance and Analytics" on GeM Portal. Copy of QRs & TDs is attached with this letter.
5. G Dte, FHQ, BSF
: वास्ते सूचनार्थ आपके पत्र संख्या-BSF/G/VID/
Mod/2021/136 दिनांक 04 मार्च 2024 के संदर्भ में।
6. फाईल।

QRs & TDs OF SOFTWARE OF GIS FOR IMAGE SURVEILLANCE AND ANALYTICS

S/No	QRs/Specification	Trial Directives	Result expected/ desired
A	Software specifications		
1.	Types of GIS Software offered in the scope of supply i. Desktop/Server GIS	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
2.	Types of Licence i. Perpetual	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
3.	Duration of Subscription (in months) i. 12 or more	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
4.	OEM Licensing policy i. Per Named User/User	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
5.	Number of Licensing included in the offered product as per OEM defined Licensing Policy i. 1 or more ii. Enterprise version along with desktop licenses as per user requirement	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
6.	License delivery mode i. Dongle/Electronics	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
7.	Platform type i. Desktop/Server based ii. Compatible with Web based GIS Server	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
8.	Hosting Environment/ Deployment Option i. On Premises ii. Compatible with standalone server	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
9.	The offered product have support from OEM for i. Unlimited updation for Patches and Bug fixes within maintenance & support period, ii. Unlimited up-gradation of version within support period	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
10.	Number of years for OEM support for updation i. 1 or more	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
11.	Number of years for OEM support for up-gradation of version is included in the scope of supply i. 1 or more	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
12.	Training Options i. On-Site with Training Material	-	Must be as per Specification.

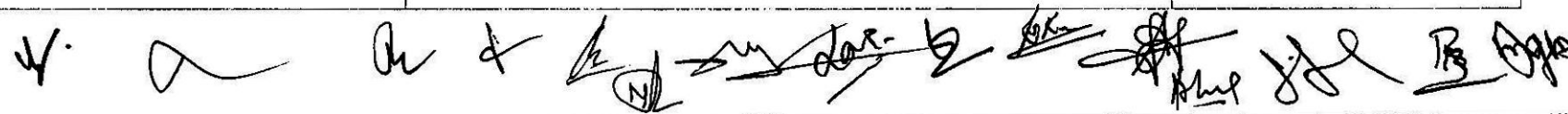
S/No	QRs/Specification	Trial Directives	Result expected/ desired
13.	On-Site or any user location with Training Material Number of days Training Provided i. 10 or more	-	Must be as per Specification.
B	GIS SERVER SPECIFICATIONS		
14.	GIS Server Features i. Support publication/ hosting of OGC service like WMS, WFS, WCS & WMTS ii. Support input data like point, line, polygon, tabular data etc iii. Enable role based access management to let administrators to add, update, manage and maintain GIS data and user management, Content Sharing and capability to build various GIS applications. iv. Capable of maintaining data history, version management and conflict detection. v. Support database check in – check out / replication functionalities. vi. Capable to manage maps, satellite images, GIS data of various point of interest information, infrastructure and assets vii. Provide access to online 2D/ 3D, street, basemap, imagery services for location reference	BOO will check the OEM certification, carry out physical check as well as the functionality test for parameters. In case of any discrepancy/ problem, the vendor/ rep of firm will demonstrate the features to BOO	Must be as per Specification.
15.	GIS Server Generic Features i. Capable to integrate basemaps like Imagery, High Resolution Imagery, Oceanic data, Topographic, Street View data etc., ii. Support integration with CRM, ERP, BI System iii. Capable to integrate basemaps/baselayer in offline mode compatible with on-premises BSF GIS server like Imagery, High Resolution Imagery, Oceanic data, Topographic, Street View data etc	BOO will check the OEM certification, carry out physical check as well as the functionality test for parameters. In case of any discrepancy/ problem, the vendor/rep of firm will demonstrate the features to BOO	Must be as per Specification.
16.	Desktop GIS Features i. Use map templates to standardize maps ii. Create/manage/use spatial bookmarks iii. Support creation of layers or shortcuts to geographic	BOO will check the OEM certification, carry out physical check as well as the functionality test for parameters. In case of any discrepancy/ problem, the vendor/ rep of firm will demonstrate the features to BOO	Must be as per Specification.

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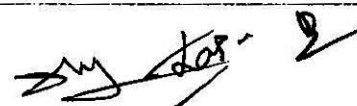
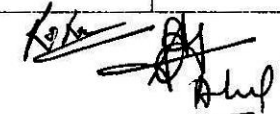


S/No	QRs/Specification	Trial Directives	Result expected/ desired
	data that store Symbology for Displaying features iv. Image classification like thematic classes, Individual band settings, Color maps, Contrast, Brightness		
17.	Display facility for elevation data for the map available in the offered product i. TIN (Triangular Irregular Network) ii. Contour with Index Contours iii. DEM - Hillshade with Sun Position Control iv. DEM-Shaded Relief Using Hillshade and Elevation v. Terrain Face, Aspect, Elevation, Slope	BOO will check the OEM certification, carry out physical check as well as the functionality test for parameters. In case of any discrepancy/ problem, the vendor/ rep of firm will demonstrate the features to BOO	Must be as per Specification.
18.	Thematic Symbology for the map available in the offered product i. Single symbol, Unique value, Match to predefined style, Graduated colors or symbols, Proportional symbols, Dot density mapping ii. Chart mapping including pie and bar chart iii. Bivariate and multivariate data rendering	BOO will check the OEM certification, carry out physical check as well as the functionality test for parameters. In case of any discrepancy/ problem, the vendor/ rep of firm will demonstrate the features to BOO	Must be as per Specification.
19.	Desktop GIS Generic Features i. Support rule based symbology and cartographic representations of map entities ii. Capable to calculates distance and additional proximity information between the input features and the closest feature iii. Desktop GIS Software can act as a thick client iv. Provision to share data as to WebGIS Servers to be used for browser based application v. Desktop GIS software have availability of Online/SaaS based map services vi. Tools to creates Thiessen polygons from point features vii. Advance core analysis tools like Erase, Frequency, Identity, Point Distance, Polygon Neighbors, Symmetrical Difference viii. Conflation toolset to help reconcile data from multiple sources ix. Style animation based on attributes and	BOO will check the OEM certification, carry out physical check as well as the functionality test for parameters. In case of any discrepancy/ problem, the vendor/ rep of firm will demonstrate the features to BOO	Must be as per Specification.

S/No	QRs/Specification	Trial Directives	Result expected/ desired
	<ul style="list-style-type: none"> expressions x. Linear Referencing System xi. Dynamic Segmentation xii. Creating of utility network model for water and sewerage xiii. Defining multiple network tracing without customization xiv. Creation of compound geometry feature which stores point, line, polygon in a single layer 		
C	IMAGE HANDLING AND PROCESSING		
20.	<p>Image Handling and Processing Features</p> <ul style="list-style-type: none"> i. Image Exporting capability, ii. Image Management capability iii. Resampling, iv. Georeference Imagery 	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
21.	<p>Image Handling and processing Generic Features (As per user requirement)</p> <ul style="list-style-type: none"> i. Support publishing dynamic image services, ii. Support parallel processing across multiple machines and instances, iii. Support Distributed storage, iv. Support large raster analysis tasks, v. Pixel level editing vi. Image annotation and sketching capabilities with automatic, accurate transformation to geographic features vii. Create orthomosaics, digital surface models, and multispectral indices viii. Web based imagery application to Streamline the search, discovery, and use experiences, ix. Support Lidar data analysis like 2D/3D view, volume calculation, 3D Measurement, Generate contours, classification, x. Workflow based Raster, Vector, Point cloud operators for analysis, 	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.

S/No	QRs/Specification	Trial Directives	Result expected/ desired
	<ul style="list-style-type: none"> xi. Unsupervised and Supervised classification xii. AI/ML operators for Image classification and object detection xiii. Geographic linking and sync views xiv. Mosaic Images with interactive outline editing and preview xv. Images Compress without any visual loss. xvi. Able to analyse SAR images for flood mapping xvii. Distributed computing for scalable image processing and serving 		
D	3D ANALYSIS FEATURES		
22.	3D Analysis Features		
	i) Support 2D and 3D simultaneous view	BOO will check Functionality test to be demonstrated by OEM	Must be as per Specification..
	ii) Realistic 3D view with exterior texturing		
	iii) Support to CityGML or OpenGML, TIN, DEM support, LAS data support or any other similar type (As per user requirement)		
	iv) Support editing tools for the sketching and texturing of 3D building models (As per user requirement)		
23	3D Analysis Generic Features (As per user requirement)		
	i 3D Analysis Generic features	BOO will check Functionality test to be demonstrated by OEM	Must be as per Specification.
	ii 3D analysis support like Line of Sight, View shed, Steepest path,		
	iii Provision to create rules for application for fast data creation turnaround time,		
	iv Support import and export of data in .kml/.kmz,		
	v Creation of detailed 3D building from the point cloud,		
	vi Create detailed 3D colorized point clouds,		
	vii 3D textured meshes, and 3D PDFs,		
	viii GIS layers can be updated using point cloud layer in 3D environment		



S/No	QRs/Specification	Trial Directives	Result expected/ desired
E	SPATIAL ANALYSIS		
24.	Spatial Analysis	BOO will check Functionality test to be demonstrated by OEM	Must be as per Specification.
	i. Spatial Analysis capability.		
	ii. Proximity Analysis		
	iii. Overlay Analysis		
	iv. Zonal and Focal Analysis		
	v. Classification and Clustering		
	vi. Standard Interpolation		
	vii. Support features like shortest path,		
	viii. Support density value assessment		
	ix. Tools for assessment of Hydrologic characteristics, flow path length, and assign stream orders		
F	ROUTING AND NETWORK ANALYSIS		
25.	Routing and Network Analysis	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
	i. Routing and Network Analysis Features		
	ii. Availability of tools for building network data from linear features,		
	iii. Availability of tools for identification of service areas		
	iv. Availability of tools for identification of closest facility		
	v. Availability of tools for creation of a origin destination matrix (travel time and travel distance),		
	vi. Support assigning and editing network features such as barriers, turns and uni-directional flow,		
	vii. Support Network with Uni-directional and Bi-directional flow, Turn - By - Turn Navigation,		
	viii. Automatically generate schematics layout/diagrams from complex networks,		
	ix. Provision to allow web application to access schematic diagrams through a web services		
	x. Provision for Multipoint routing ability, Tools to Optimize network design and analysis, Tools to Forecast and plan		

4.      


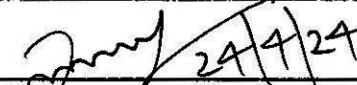
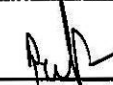
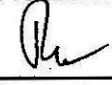
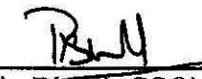







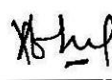
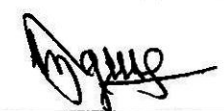

S/No	QRs/Specification	Trial Directives	Result expected/ desired
G	LOCATION TRACKING		
26	Location Tracking i. GPS Tracking capability, ii. VTS Integration capability, iii. Mobile device tracking capability iv. Mobile app for tracking location through user controlled mobile device, Capable to track large volume of real time location, Dynamically filter data to provide focussed view of the location	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
G	GEO TAGGING		
27	Geo Tagging i. Geo Tagging Features ii. Provision of Geo tagging facility of land, iii. Provision of Land description like Land area, Latitude , Longitude, Land type, Land description, Land location address iv. Survey number, Photo and Video, Facility to bring online/offline base map with the geo-tagging application v. Excel based survey form creation and uploading to app without any coding/development vi. Provision for Geo tagging report.	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
I	GIS DATA MANAGEMENT		
28	GIS Data Management i. GIS Data Management Features ii. Tools for Centralized workflow assignment, Tools for GIS Data quality validation checks Forecasting feature, Support visualization of data as maps, charts, and tables iii. Support Vector, tabular data, csv files, standard big data sources, Spatio-temporal analysis	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.

4. 

S/No	QRs/Specification	Trial Directives	Result expected/ desired
29	<p>Advanced Features (As per user requirement)</p> <ul style="list-style-type: none"> i. Advance Features ii. Support Drone-captured imagery into high-quality 2D and 3D imagery products ready to shared on web, Visualizations of imagery in map space and image space iii. Perform advanced change Detection iv. Stereo view using two or more images, 3D flythrough using DEM, ortho, symbol, process Satellite/aerial multiple stereo images for triangulation v. Create DEM from stereo images in raster. TIN, 3D shape, ASCII, point cloud vi. Edit DEM using Stereo view using editing tools vii. Capture 3D features using stereo view of satellite, aerial, drone images 	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
J	DASHBOARD AND REPORTING		
30	<p>Dashboard</p> <ul style="list-style-type: none"> i. Dashboard Features ii. Configurable/Customizable dashboard, iii. User wise Dashboard iv. Provision to define users and their Roles, v. Advanced Access rights vi. Generate Custom Fields and Reports, vii. Filtering of information and event driven outputs on the selected results, viii. Threshold based Alert generation by configuration ix. Analytical dashboard for GIS Data, x. Support latest HTML and JavaScript standard 	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.
31	<p>Reporting</p> <ul style="list-style-type: none"> i. Reporting Features ii. Summary Reporting, iii. Sorting and arranging report data, iv. Export of Reports in various formats like pdf, jpg etc, 	BOO will check Functionality test to be demonstrated by OEM/vendor	Must be as per Specification.

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S/No	QRs/Specification	Trial Directives	Result expected/ desired
	v. Customization of reports through scripting using python, vi. Report formatting definition can be shared, vii. Defence charts		
32	Generic Parameters i. Supported Operating System- Preferably Windows ii. Supported Web browsers- Microsoft Edge, Google Chrome, Mozilla Firefox or equivalent iii. Supported Database- MSSQL, PostgreSQL, NoSQL, MongoDB (any structured/unstructured database)	BOO will check the OEM certification, carry out physical check as well as the functionality test for parameters. In case of any discrepancy/problem, the vendor/rep of firm will demonstrate the features to BOO	Must be as per Specification

	 24/7/24		
(Anurag Garg), IPS, ADG (Log), BSF	(Mahabir Prasad), DIG(WW), BSF	(Ajeet Kumar), Comdt(SIW), BSF	(Ravindra Kumar), Comdt(G), G Dte, BSF
			 24/7/24
(Rajiv Bhatt), SSO, BPR&D	(R S Rana), Jt.Asstt. Director, DCPW	(Narendra Singh), DC(Comn), SSB	(Tarun P Meena), AC (NIIE), BSF
			
(Kumar Abhishek), AC, G Dte, BSF	(Akshay Deshmukh), AC, ITBP	(Aby Thomas), AC, CRPF	(Onkar Sharma), AC, CISF
			
(L K Sharma), AC-II/JESYS, NSG	(Nb/Sub M P Guapa), Assam Rifles	(SI/RM H N Mishra), SIW, BSF	

Approved /Not Approved

Director General
Border Security Force