राष्ट्रीय प्रौद्योगिकी संस्थान कर्नाटक, सुरत्कल

DOC - 4

NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

विभाग / DEPARTMENT OF WATER RESOURCES & OCEAN ENGINEERING
POST SRINIVASNAGAR, MANGALORE – 575 025 (D. K)
पोस्ट- श्रीनिवासनगर, मंगलूरु - 575025 (डी. के)

Phone: (0824) 2474000. Fax: (0824) 2474033
E- mail: info@nitk.ac.in **Website: http://www.nitk.ac.in**

उद्धरण आमंत्रण सूचना/NOTICE INVITING QUOTATION

अधिसूचना संख्या/ Notification No: NITK/WROE/ERDAS/OH-35/2025-26/04 दिनांक/Dated: 05.03.2026

सामग्री का नाम/ **Name of Goods**	**ERDAS IMAGINE EDUCATION LICENCES**
अनुमानित राशि **/ Estimated Amount**	**₹ 4,12,410/-**
ई.एम.डी राशि (अनुमानित राशि का 2%) (2.5 लाख से ऊपर के अनुमानित राशि लिए लागू) **/ EMD Amount (2% of estimated amount) (Applicable for estimate 2.5 lakhs and above)**	**₹ 8,248/-**
क्रय आदेश जारी होने के बाद वस्तु की आपूर्ति का समय **/ Time for Supply of item after release of Purchase order**	**07 (दिन /Days)**
दस्तावेज़ डाउनलोड/बिक्री आरंभ तिथि / **Document Download / Sale Start Date**	**06.03.2026 @11.00AM**
स्पष्टीकरण आरंभ तिथि **/ Clarification Start Date**	**06.03.2026 @3.00PM**
स्पष्टीकरण समाप्ति तिथि **/ Clarification End Date**	**11.03.2026 @3.00PM**
बोली जमा करने की आरंभ तिथि / **Bid Submission Start Date**	**06.03.2026 @11.00AM**
बोली जमा करने की अंतिम तिथि / **Last Date for submission of bids**	**12.03.2026 before 3.00 PM**
बोली खोलने की तिथि/ **Bid Opening Date**	**13.03.2026 @11.00AM**
बोली जमा करने का पता/**Address for Submission of bids**	**Dr. Chandan M.C, Assistant Professor** **Dept. of Water Resources & Ocean Engineering** **NITK Surathkal, Mangalore - 575025** **Tel: +91-9880903983, Email:** chandanmc@nitk.edu.in

राष्ट्रीय प्रौद्योगिकी संस्थान कर्नाटक, सुरत्कल

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अधिसूचना संख्या/ Notification No: NITK/WROE/ERDAS/OH-35/2025-26/04 दिनांक/Dated: 05.03.2026

NOTICE INVITING QUOTATION (NIQ)

The National Institute of Technology Karnataka, Surathkal (in short – NITK, Surathkal) is an Institute of National Importance Under Ministry of Education Govt of India, imparting Technical Education and engaged in Research Activities. It is proposed to procure the items for the departmental academic/research activities.

Sealed Quotations as per the Price Schedule given in this NIQ are invited for the following items subject to the terms and conditions, from the reputed manufacturers or its authorised dealers so as to reach on or before scheduled date and time**.** The quotations in the firm's Business letter head should be address to the "Director, NITK, Surathkal". The envelope shall be superscribed with the Quotation Notification Number and the Name of the Goods for which quotation is submitted.

सामग्री का नाम / **Name of Goods**	**ERDAS IMAGINE EDUCATION LICENCES**
अनुमानित राशि **/ Estimated Amount**	**₹ 4,12,410/-**
ई.एम.डी राशि (अनुमानित राशि का 2%) (2.5 लाख से ऊपर के अनुमानित राशि लिए लागू)/ **EMD Amount (2% of estimated amount) (Applicable for estimate 2.5 lakhs and above)**	**₹ 8,248/-**
क्रय आदेश जारी होने के बाद वस्तु की आपूर्ति का समय **/ Time for Supply of item after release of Purchase order**	**07 (दिन /Days)**
दस्तावेज़ डाउनलोड/बिक्री आरंभ तिथि / **Document Download / Sale Start Date**	**06.03.2026 @11.00AM**
स्पष्टीकरण आरंभ तिथि / **Clarification Start Date**	**06.03.2026 @3.00PM**
स्पष्टीकरण समाप्ति तिथि **/ Clarification End Date**	**11.03.2026 @3.00PM**
बोली जमा करने की आरंभ तिथि / **Bid Submission Start Date**	**06.03.2026 @11.00AM**
बोली जमा करने की अंतिम तिथि / **Last Date for submission of bids**	**12.03.2026 before 3.00 PM**
बोली खोलने की तिथि / **Bid Opening Date**	**13.03.2026 @11.00AM**

Sd/-
HOD
[मोहर के साथ एचओडी के हस्ताक्षर]

Note: Institute shall not be responsible for any postal delay about non-receipt /non-delivery of the bids or due to wrong addressee.

SECTION-1
Terms and Conditions

1. The rates should be quoted for preferably FOR destination from supply within India.
2. The bidder shall indicate the excise duty exemption for the goods if applicable.
3. The rate quoted should be on unit basis. Taxes and other charges should be quoted separately, considering exemptions if any. The rate should be quoted in INR only
4. Rate quoted should be inclusive of Testing, commissioning and Installation of equipment and Training.
5. Payment: No advance payment will be made. Payment will be made only after the supply of the item in good and satisfactory condition and receipt of performance security by supplier.
6. Guarantee/Warrantee period should be specified for the complete period should be specified in section 3 of this tender document.
7. Period requirement for the supply and installation of item should be specified in section 3 of this tender document.
8. In case of dispute, the matter will be subject to Mangalore Jurisdiction only.
9. **Delivery Period**: The Delivery Period/Time shall be deemed to be the essence of the Contract and delivery must be completed not later than such date(s). If the Supplier does not perform its obligations within the Delivery Period/Date mentioned in the Contract, the same would constitute the breach of the Contract and the Institute shall have the right to cancel or withdraw the Contract for the unsupplied portion after the expiry of the original or extended delivery date or period stipulated in the Contract. Such cancellation of the contract on account of non - performance by the Supplier would entitle the Buyer to forfeit the EMD/Performance Security besides other actions such as debarment from the Institute as per GFR 2017.
10. **Liquidated Damages:** Timely delivery is the essence of the contract and hence if the Supplier fails to deliver Goods within the original/extended delivery period(s) specified in the contract, the Institute will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, **@ 1% per week or part of the week of the delayed period** as pre-estimated damages not exceeding 5% of the contract value without any controversy/dispute of any sort whatsoever.
11. The bidder needs to comply with restrictions under rule No 144 (xi) of GFR (General Financial Rules) 2017 and the clause pertaining to Public Procurement Division Order (Public Procurement no 1,2 & 3 vide ref. F.No.6/18/2019-PPD dated 23.07.2020 and 24.07.2020 of Dept of Expenditure (DOE), Ministry of Finance). In this Connection Bidder has to submit Self Certification (as per Annexure A or B), depending on the status of the bidder.
12. The bidder needs to submit a Self-certification in line with Make in India, Public Procurement Order No. P-45021/2/2017-BE-II dt. 15.06.2017, P 45021/2/2017-PP (BE-II) dated 28.05.2018, P-45021/2/2017-PP (BE-II) dated 29.05.2019 and P45021/2/2017- PP (BE – II) dated 16.09.2020 of DPIIT, Ministry of Commerce & Industry.

The Bidder who will not meet this criterion will be rejected in the technical bid. The Self-certification should be provided as per Annexure C.

13. EMD must be in the form of Bank Guarantee **Annexure-D** (DD/e-Payment mode through Net Banking). It will be valid for 180 days from the date of opening of the tender. In case of EMD payment made through E-Payment, UTR Number with details should be uploaded. The firm registered with MSME/NSIC as per MSME procurement policy order 2012 will be exempted from submission of EMD. Intended parties will have to give proof of registration along with their tender. EMD of the unsuccessful bidders shall be refunded without any interest at the earliest after finalization of the purchase of the concerned item.
    a. The EMD will be returned to the BIDDERs(s) whose offer is not accepted by NITK within one month from the date of the placing of the purchase order(s) on the selected BIDDER(s). In the case of the BIDDER(s) whose offer is accepted the EMD will be returned on submission of Performance Security in the form of Bank Guarantee (BG). However, if the return of EMD is delayed for any reason, no interest/penalty shall be payable to the Bidders.
    b. The successful BIDDER, on the award of contract/order, must send the contract/order acceptance in writing, within 15 days of award of contract/order failing which the EMD will be forfeited.
    c. The EMD shall be forfeited in case a successful BIDDER fails to furnish the Performance Security.
    d. Bidder should prepare the EMD as per the instructions specified in the tender document. The original EMD should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission as specified in the tender documents. The details of the BG/DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise, the uploaded bid will be rejected.
14. **Performance Security**: The successful bidder shall deposit performance security of 3% of the quoted price in the form of Bank Guarantee (**ANNEXURE-E**) of any scheduled bank drawn in favour of **The Director, NITK Surathkal, Mangaluru** payable at Mangaluru. In case the bidder fails to deposit the said Performance Security within the stipulated period, including the extended period if any, the Earnest Money Deposited by the bidder shall be forfeited automatically without any notice. Please note the following points:
    a. Successful bidder should submit performance Security as prescribed above to the purchase Section, NITK Surathkal, on or before 30 days from the date of issue of order acknowledgment.
    b. Performance Security shall be for the due and faithful performance of the contract and shall remain binding, notwithstanding such variations, alterations for extensions of time as may be made, given, conceded, or agreed to between the successful bidder and the purchaser under the terms and conditions of acceptance to tender.

c. The successful bidder is entirely responsible for the due performance of the contract in all respects according to the terms and conditions of the tender.

d. The validity of the Performance Security must cover the warranty period plus two months.

15. Abnormally quoted low bid will be liable for rejection as per the OM No.F.12/17/2019-PPD of Department of Expenditure, Ministry of Finance dated 6th February 2020.

*****Disclaimer***** *Bidders are advised to exercise caution and not respond to any unknown calls, emails, or embedded links requesting payment for participating in the tender or for any other purpose. Please note that NITK Surathkal never asks for any tender fee for participation in tenders or bids.*

SECTION-2

SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED DETAILS

[To be filled up by the Department / Centre of NITK, Surathkal]

Item(s) Name to be Procured	: ERDAS IMAGINE EDUCATION LICENCES
Brief Specifications of the Item(s) (Annexure-F)	: Attached
Quantity	: 05
Any other details / requirement	: **--**
Warranty Period required	: 01 year
Delivery Schedule expected after placement of Purchase order **(in Weeks)**	: 1 Week
Performance Security to be given by Successful Bidder after release of Purchase Order (in Rupees) (**applicable for estimate Above 2.5 lakhs**)	: 3% of Purchase Order

SECTION 3
PRICE SCHEDULE

[To be used by the bidder for submission of the quotation]

1.	Item Name	:
2.	Specifications (Conforming to Schedule of requirements Enclose additional sheets if necessary)	:
3.	Currency and Unit Price	:
4.	Quantity	:
5.	Item Cost (Sl No. 3 * Sl. No. 4)	:
6.	Taxes and Other Charges (i) Specify the type of taxes and duties in percentages and also in figures. (ii) Specify Other Charges in figures.	:
7.	**Warranty Period (Conforming to the Schedule of requirements)**	:
8.	Delivery Schedule (Conforming to the Schedule of requirements)	:
9.	Name and address of the Firm for placing purchase order	:
10.	Name and address of Indian authorized agent (in case of imports only)	:

Signature of the Bidder: _____

Name and Designation: _____

Business Address : _____

_____

Place: **Seal of the Bidder's Firm**
Date:

SECTION 4
CONTRACT FORM

[To be provided by the bidder in the business letter head]

1. (Name of the Supplier's Firm) hereby abide by the delivery schedule mentioned in this document for supply of the items if the purchase order is awarded.

2. The item will be supplied conforming to the specifications stated in this document without any defect and deviations.

3. Warranty will be given for the period mentioned in this document and service will be rendered to the satisfaction of NITK, Surathkal during this period.

Signature of the Bidder: _____

Name : _____

Business Address : _____

_____

Place : **Seal of the Bidder's Firm**
Date :

Annexure-A

(Compliance to be submitted in the bidder's letterhead)
(Applicable for estimate above 2.5 lakhs)

Sub: Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017

Item Name:	
Enquiry No.:	

We M/s._____(name of the bidder company) have read the clauses pertaining to the Department of Expenditure's (DoE) Public Procurement Division Order (Public procurement no 1,2 & 3 vide ref. F.No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020) regarding restrictions on procurement from a bidder of a country that shares a land border with India.

We hereby certify that **we are not from such a country** and eligible to be considered for this tender.

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead to commercial rejection of their bids by NITK)

For and behalf of_____(Name of the bidder)

(Signature, date & seal of an authorized representative of the bidder)

Annexure-B

(Compliance to be submitted in the bidder's letterhead)
(Applicable for estimate above 2.5 lakhs)

Sub: **Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017**

Item Name:	
Enquiry No.:	

We M/s._____(name of the bidder company) have read the clauses pertaining to the Department of Expenditure's (DoE) Public Procurement Division Order (Public procurement no 1,2 & 3 vide ref. F.No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020) regarding restrictions on procurement from a bidder of a country which shares a land border with India.

We are from such a country which shares a land border with India & have been registered with the Competent Authority as specified in the above-said order. We hereby certify that we fulfill all requirements in this regard and are eligible to be considered.

Evidence of valid registration by the Competent Authority is attached.

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead to commercial rejection of their bids by NITK)

For and behalf of_____(Name of the bidder)

(Signature, date & seal of an authorized representative of the bidder)

Annexure-C

Self-Certification on the letterhead of the company
(Applicable for estimate above 5 lakhs)

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II dt. 15.06.2017, P-45021/2/2017-PP (BE-II) dated 28.05.2018, P-45021/2/2017-PP (BE-II) dated 29.05.2019 and

P-45021/2/2017-PP (BE-II) dated 16.09.2020, we hereby certify that

……

(Supplier name) are local supplier meeting requirement of minimum local content ..... % defined in as above orders for the material against Enquiry / Tender No

……

……

……

Details of the location at which local value addition will be made are as follows:

……

……

……

We also understand false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permitted under law.

Date:
Place:

Signature:
Name and Designation:
Mobile no:
Office
Telephone No:
Email ID:
Office Seal:

Annexure-D

FORMAT FOR EARNEST MONEY DEPOSIT / BID BOND
(Applicable for estimate above 2.5 lakhs)
(To be typed on Non-judicial stamp paper of value Indian Rupees Five Hundred)

(TO BE ESTABLISHED THROUGH ANY OF THE NATIONAL BANKS (WHETHER SITUATED AT MANGALURU OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT MANGALURU OR ANY SCHEDULED BANK (OTHER THAN NATIONALISED BANK) SITUATED AT MANGALURU. BONDS ISSUED BY COOPERATIVE BANKS ARE NOT ACCEPTED)

LETTER OF GUARANTEE

To
Director,
National Institute of Technology Karnataka,
Srinivasnagar P.O., Surathkal
Mangaluru – 575025

IN ACCORDANCE WITH YOUR TENDER for the supply of ……., M/s..... (hereinafter called the "Bidder") having its Registered Office at ....., wish to participate in the said bid for the supply.....as an irrevocable Bank Guarantee against Earnest Money Deposit for an amount of Rs. ……. (Rupees.....) valid up to **(180 days from the date of issue of Bank Guarantee)**, is required to be submitted by the bidder as a condition precedent for participating in the said bid, which amount is liable to be forfeited by the Purchaser on (1) the withdrawal or revision of the offer by the bidder within the validity period, (2) Non acceptance of the Letter of Intent/Purchase order by the Bidder when issued within the validity period, (3) failure to execute the contract as per contractual terms and condition within the contractual delivery period and (4) on the happening of any contingencies mentioned in the bid documents.

During the validity of this Bank Guarantee:
We, ……(Bank name) having the registered office at.....guarantee and undertake to pay immediately on first demand by NITK Surathkal, an amount of Rs..... (Rupees. .....) without any reservation, protest, demur and recourse. Any such demand made by theNITK Surathkal shall be conclusive and recourse. Any such demand made by the purchaser shall be binding on the Bank irrespective of any dispute or difference raised by the Bidder.
The Guarantee shall be irrevocable and shall remain valid up to.....(180 days from the date of issue of Bank Guarantee) If any further extension is required, the same shall be extended to such required period on receiving instruction from the Bidder, on whose behalf the is Guarantee is issued.

Notwithstanding anything contained herein:
∗ Our liability under this Bank Guarantee shall not exceed Rs..... (Rupees.....).

∗ This Bank Guarantee shall be valid up to.....(date).
∗ We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee Only and only if you serve upon us a written claim on or before .....(date).

This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at our branch office at .....situated at .....(Address of local branch).

Yours truly,
Signature and seal of the guarantor: Name of Bank:
Address:
Date:

Instruction to Bank: Bank should note that on expiry of Bond Period, the Original Bond will not be returned to the Bank. The bank is requested to take appropriate necessary action on or after the expiry of the bond period

Annexure-E

FORMAT FOR PERFORMANCE GUARANTEE BOND
(To be typed on Non-judicial stamp paper of the value of Indian Rupees of Five Hundred)
(Applicable for estimate above 2.5 lakhs)

To,
Director,
National Institute of Technology Karnataka,
Srinivasnagar P.O., Surathkal
Mangaluru – 575025

Whereas…… (name and address of the contractor) (hereinafter called "the contractor") has undertaken, in pursuance of contract no …….. date……. to supply …… (description of goods and Works/ Services) (hereinafter called "the contract").

And Whereas you have stipulated it in the said contract that the contractor shall furnish you with a bank guarantee by a Commercial bank for the sum specified therein as security for compliance with its obligations as per the contract;

And Whereas we have agreed to give the contractor such a bank guarantee.

Now Therefore we hereby affirm that we are guarantors and responsible to you, on behalf of the contractor, up to a total of ……(amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the contractor to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the sail debt from the contractor before presenting us with demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed thereunder or of any of the contract documents which may be made between you and the contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

This guarantee shall be valid until the ……day of …….20……

Our……..branch at……*(Name & Address of the ……..*(branch) is liable to pay the guaranteed amount depending on the filing of a claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our ……* branch a written claim or demand and received by us at our ……..* branch on or before Dt…….. otherwise, the bank shall be discharged of all liabilities under this guarantee after that.

(Signature of the authorized officer of the Bank)

……

……

Name and designation of the officer

……

Seal, name & address of the Bank and address of Branch

*Preferably at the headquarters of the authority competent to sanction the expenditure for the procurement of goods or at the concerned district headquarters or the state headquarters.

Annexure-F

Detailed Technical Specifications

1.	Software should be user friendly & GUI based menus & Interface
2.	Software should have been used widely in NRSC, Survey of India, GSI, SAC
3.	Software should able to Float Individual software modules across network
4.	Software should support the industry standard raster/satellite data formats
	TIFF, GeoTIFF, BigTIFF, BigGeoTIFF, ESRI GRID, ESRI GRID Stack, ESRI BIL, BIP and BSQ, JFIF (JPEG), DTED, CIB, CADRG,PIX, Mr.SID, ers, alg, DigitalGlobe TIL, HDF,ECW2, ECW3,LAS,IRS, Spot, OCEANSAT, NOAA, MODIS, HYPERION, ASTER, Quick bird, Cartosat, ORBI Image, IKONOS, ORBIView, Resourcesat 1&2, BitMap, RISAT1 sensor Support
5.	Software should support for files over 5 GB in size
6.	Software should have Geographic linking & Sync Views
7.	Software should have Dynamic roam, Dynamic North Arrow & Scale Bar
8.	Software should send view or map directly to Ms-office PowerPoint/Word/JPEG
9.	Software should support fractional zoom, rectangle zoom and continuous zoom
10.	Software should support Continuous rotate, Zoom to a specific scale
11.	Software should support On-the-fly resampling
12.	Software should have Image histogram modification tools
13.	Software should save and reload multiple LUTs
14.	Software should recode class values in a classified Imagery
15.	Software should overlay multiple data types (Unlimited data layers)
16.	Software should support Filtering for thematic images (Neighbourhood Analysis)
17.	Viewer should support Visual change detection with Swipe / Blend / Flicker option
18.	Software should have Inquire cursor and inquire box
19.	Software should support the Vector formats like Geodatabases, Shapefile, MDB, GML, KML, VPF, GeoJson, Geopackage, NITF.
20.	Software should have Measurement tools on the Viewer.
21.	Software should have Profile tools like:
	• Spatial profile for cross-section, surface distance and line-of-sight

	• Surface profile for rapid isometric surface views
	• Point cloud profile and measurement
22.	Software should have surface profile for rapid isometric surface views
23.	Software should support Batch Processing options
24.	Software should have Interpolation techniques: linear or non-linear rubber sheeting
25.	Software should create an unlimited number of ECW2 /ECW3 and JPEG2000 compressed images from input images with either export or direct-write
26.	Software should open Bing Maps/ Open street maps/ Customized Maps within viewer and overlay with Image or vector data.
27.	Software should have Intelligent (sensor-specific) band combination selectors
28.	Software should have DRA (Live Update) works with all Stretch types
29.	Software should quickly customize the interface to the production environment through the Preference Editor
30.	Software should have Image Subset tool, Text editor, Layer information tools, View binary data, Coordinate calculator
31.	Software have Image Catalog for raster data – a database that serves as an image library, softcopy search, and information management system with following functionalities
	• View image footprints on reference maps
	• Customize reference maps
	• Display selected images
32.	Single Photo Orthocorrection – for Ortho Image generation, Software should support Frame camera, Digital camera, ALOS AVNIR Rigorous Orbital model, ALOS PRISM Rigorous Orbital model, ALOS PRISM with RPC, ASTER Rigorous Orbital model, CARTOSAT RPC, Oceansat, DEIMOS RPC, EROS 1A & 1B Rigorous Orbital model,FORMOSAT2 Rigorous Orbital model,GEOEYE-1 Rigorous Orbital model, GEOEYE RPC, IKONOS NITF, IKONOS RPCs, IND High Res RPC, IRS-1C/1D, KOMPSAT RPC, KOMPSAT-III RPC, Landsat TM, MSS, ETM+, MODIS, NITF RPC, ORBIMAGE Rigorous Orbital model, PLEIADES RPC, PLEIADES Rigorous Orbital model, QuickBird RPC, QuickBird/WorldView (including NCDRD format) Rigorous Orbital model, RADARSAT, RAPIDEYE RPC, RESOURCESAT 1 & 2, SPOT Rigorous Orbital model, SPOT Pan, XS, XI, THEOS1 – Rigorous Orbital model, WorldView1 2 & 3 RPC, ZY-3 RPC
33.	Software should be able to ingest external DEM for Ortho-correction
34.	Software should create or access individual custom maps of user-defined size.
35.	Software should allow to add multiple data frames containing one or more data layers each

36.	Software should automatically generate grid ticks, lines and graticules
37.	Software should create Titles, Neat lines, bounding boxes, symbols etc.
38.	Software should create Annotation, Logos, North arrows, Scale bars
39.	Software should allow to Stitch/Mosaic multiple images with:
	• Differing or like resolution (pixel sizes)
	• Differing or like projection systems
	• Geometrically calibrated images
40.	Software should support Histogram matching
41.	Software should use existing lookup tables (LUTs) to perform color balancing
42.	Software should have Industry–standard Spectral, spatial & Radiometric enhancement tools.
43.	Software should support various Resolution merging techniques (Panchromatic & Multispectral)
44.	Software should have Pan Sharpening Technique for WorldView-2 (8 band data)
45.	Software should support Fourier analysis
46.	Software should support topographic analysis like, Slope, interpolation, Aspect, Shaded relief & Painted relief & Viewshed Analysis
47.	Software should allow the user to access hyperspectral imagery from which they wish to quickly extract material mapping information with the minimum of user interaction
48.	The software should include the Terrain Visualization and fly-through module with the following capabilities:
	• 3D vector & raster drape
	• Drape Aerial, satellite imagery, scanned maps and thematic images
	• Navigate the scene using mouse controls or user-defined
	• Create flight paths & create 3D movies
	• Capabilities to add annotation, vector GIS layers, symbols, billboards, and texture mapped 3D objects to create realistic views of the study area.
	• Perform intervisibility calculations
	• Create 3D movies for presentations
	• Query geographic location and pixel categories/values while moving the cursor across the 3D environment

	• Query attributes for vector data rendered as 3D objects
	• Modify styling for vector points, lines, or polygons rendered as 3D objects
	• Import realistic 3D models (e.g., 3D DXF, MultiGen OpenFlight, etc.)

The software should include the following Automatic Synchronization / Rectification / Geometric Correction Tools:

	• Automatic geo-referencing and edge-matching of Multiple Images.
	• Embedded viewers and tools in the workstation provide rapid review of results.
	• Module should support multi sensor, multi resolution data.
49.	• Module should accept multiple input data for georeferencing in a single project.
	• Module should generate automatic points between input image(s) and reference image.
	• Module should support edge matching method, where automatically points should be generated in the overlap region to pull misaligned features into alignment.
	• Module should automatically open the referenced image and the output file in a viewer, where we can use the swipe/blend/flicker is used to check the matching.
50.	Software should handle variety of different radar sensors including RADARSAT-1/2, ERS-1/2, RISAT-1, ENVISAT, ALOS PALSAR, RISAT, TerraSAR-X.
	• Optional orbit correction using three-dimensional GCP points
	• Optional terrain distortion removal (if DEM is available)
	• To extract terrain height information from stereo pairs of SAR satellite imagery for the generation of extremely accurate digital elevation models (DEMs).
	• Minimize the need for ground control points (GCPs) when creating DEMs
51.	GIS Analysis Tools / Spatial Workflow:
	• Software should support Object-based graphical tool for the rapid definition of integrated raster and vector data analyses and spatial modeling.
	• Should use graphical flow charts to quickly perform sophisticated GIS analysis
	• Should combine GIS and image processing functions in the same spatial workflow
	• Software should combine raster, vector and attribute data in a single workflow
	• Software should allow to apply a model to new data or a different geographical area at the push of a button

	• Software should make use of python scripting
	• Should Provide real-time preview of output, quickly modify & re-run the model
	• Software should support running a model directly or generate a script for integration with the main software.
	• Software should have various Model Operators like: Bitwise, Boolean, Classification, Conditional, Distance, Flow Control, Focal, Math and Trig, Matrix, Point Cloud, Python, Relational, statistical, Surface, Vector and Zonal etc…
52.	The software should include the following advanced Change Detection Functionalities:
	• Should use project-based workflows to manage the changes
	• Should incorporate multiple change detection algorithms
	• Should have options to threshold the changes
	• Should allow you to filter change results based on specific spatial and spectral characteristics.
	• Should Provide mis-registration filter to minimize the effect of false alarms due to poorly co-registered image pairs
	• Able to perform image to image radiometric normalization with accommodation for the effect of clouds and cloud shadow
53.	The software should include the following functionalities for the collection, interpretation and visualization of 3D GIS information from stereo imagery.
	• Collect 3D GIS data from triangulated/RPC's based Stereo Imagery.
	• Collect 3D information from triangulated aerial, digital, and Satellite blocks.
	• Directly collect and store 3D GIS data as 3D Shapefiles with Attributes.
	• Sensor Support satellite sensors like WV, IKONOS, SPOT, and Cartosat.

Software should be integrated with Google Earth

54.	Software should be able to synchronize the Google Earth view with the viewer.
	Software should Link and operate Google earth from viewer.
55.	Software should have the following Point cloud / LIDAR Data processing capabilities:
	• Visualize, Analyze, and manage your point clouds.
	• Should allow you to simultaneously view point clouds in 2D,3D

	• Should support Link 2D and 3D views, clip to 2D extent and follow 2D
	• Viewpoints by return, classification, elevation, file, RGB, intensity
	• Should support Standard Profile across and along a defined box
	• Software should have ability to measure in Profile and export measurements
	• Should delete and reclassify selected points in Profile or 2D view
	• Should measure in 2D View or 3D View
	• Software should have area Operators for editing by selection (Constant Z, Bias)
	• Should support RGB Encoding using ortho image.
	• Should support Ground Classification using slope and area rules
	• Should split and merge point cloud data.
	• Software should support Compressed, Fast Point Cloud Display
56.	Software should support Serial process capabilities, parallel processing capability - such as Geometric correction, Mosaic, re-projection, compression, Export etc..
57.	Software should support Serial / parallel processes to run simultaneously for each Image Processing software license. Multiple floating licenses of Image Processing software may be accessed to go far beyond four parallel processes.
58.	Software should support distributed processing (like Condor) where Batch processing is supported
59.	Software should support rigorous sensor modelling and RPC files of various Camera and Satellite Sensors
	Software should support frame, digital, video and non-metric cameras, as well as satellite sensors (CARTOSAT, Quick Bird, SPOT, Worldview 1, 2 &3, GeoEye, IKONOS, PLEIADES etc.)
	Software should manipulate data and track progress in Project Manager
	Software should export image, DTM, and orthophoto footprints along with project GCPs, check points and tie points to KML
	Software should support STEREO & MONO GCP Point Measurement capabilities with following functionalities o Automatic point correlation functionality o Support for multiple viewers, which is beneficial for measuring multi-ray points o Cursor tracks in images simultaneously based on sensor model and ground position for easy identification
	Software should support automatic tie point measurement utility with following functionalities

	○ Point pattern selected by operator ○ Automatic transfer of points between images ○ Interactive graphical view of tie point patterns
	Software should support satellite block triangulation & aerial triangulation.
	Software should support bundle adjustment of multiple images from one or more sensors (with the same sensor model type)
	Software should support triangulation without ground control if the exterior orientation parameters are available
	Software should auto-detect lack of ray convergence for automatically measured tie points (satellite workflow assistance)
	Software should provide advanced triangulation report that provides a comprehensive output list of the adjusted and estimated parameters and their accuracies, precisions and photo coordinate residuals
60.	Software should support stereo windows
	Software should have stereo, split-panel, tri-view (stereo and split panel) and mono views
	Software should support continuous panning and zoom
	Software should support On-the-fly accuracy reporting
	Software should read out ground and image coordinates, 2D and 3D measurements
61.	Software should have the ability to extract individual DTMs or an entire DTM for a project consisting of many images
	Software should be able to create a DSM and DEM by using Stereo Pair imagery
	Software should output DTM in Raster DEMs, TINs, 3D Shapefiles, ASCII files and LAS formats
	Software should support output DTMs in different projections
	Software should support multi-ray matching that increases correlated terrain point reliability
	Software should support very dense matching capability based on Semi-Global Matching (SGM) supporting digital camera and satellite imagery
	Software should support multiple CPU/Threads support during DTM generation
62.	Software should interactively edit DTM's using Stereo Imagery as back-drop reference
	Software should support dynamic display of contours, mass points, break-lines and TINs
	Software should support dynamic update of graphics/contours while editing points and triangles
	Software should support 16-button 3D mouse

63.	Software should have User interface to manage all aspects of the mosaic process including graphics, image display options and advanced color balancing capabilities
	Software should allow to Stitch multiple images with: o Differing or like resolution (pixel sizes) o Differing or like projection systems
	Software should support automatic seamlines / Manual editing of seamlines with real-time display
	Software should allow to Preview images, its outlines, overlap areas and seamlines.
64.	Software should Visualize, Analyze, and manage point clouds
	Software should allow you to simultaneously viewpoint clouds in 2D and 3D
	Software should allow subset and reproject of LIDAR datasets
65.	Software should create interactive maps
	Software should allow to copy and paste into Map frame using Microsoft clipboard (PowerPoint, Word, etc.)
66.	Software should be able to float Licenses on to other machines on the network
67.	Software should be able to Automatically do georeferenced image for non-georeferenced image
68.	Software should overlay multiple data types (Unlimited data layers) for files over 2GB in size
69.	Software should Open & Preview Raster as Image Chain
70.	Software should support Visual change detection between any data types o Swipe / Blend / Flicker o Automatic Blend and swipe with fine controls over directions and speed Multi-layer “play through” animation
71.	Software should have Measurement tool with following options o Point locations, Lengths, bearings, and angles o Polygonal areas and perimeters o Height from layover, shadow tip, or shadow base Write measurements directly to vector attribute or on-screen annotation
72.	Software should open Bing Maps/ Open Street maps/ Customized Maps within viewer and overlay with Image or vector data
73.	Software should have Intelligent (sensor-specific) band combination selectors
74.	Software should have models to create a workflow for easy and smooth processing
75.	Software should have AI/ML and Deep learning functionalities and should have AI assistant for Spatial workflows

76.	Software should have models to create a Photogrammetry workflow
77.	The software should include the following advanced Change Detection Functionalities:
78.	Should use project-based workflows to manage the changes
79.	Should incorporate multiple change detection algorithms
80.	Should have options to threshold the changes
81.	Should allow you to filter change results based on specific spatial and spectral characteristics.
82.	Should Provide mis-registration filter to minimize the effect of false alarms due to poorly co registered image pairs
83.	Able to perform image to image radiometric normalization with accommodation for the effect of clouds and cloud shadow
84.	Should support virtual mosaic of imagery; Image stitching utility with seam line and colour correction facility; colour correction facility should have more than one algorithm like image dodging, illumination equalization, colour balancing etc. and should offer automatic and manual mode of correction. Should support direct read of Sentinel-2 data in the software. The software
	should support direct read of WorldView-4 imagery from Digital Globe, including the ability to orthorectify the imagery.
85.	Software should be able to create an Anaglyph imagery with help of DEM and Imagery