

Technical Evaluation of bid for Procurement of Modern UAVs for Aerial Photographic Survey

Comp 1: Evaluation UAV System with Accessories

Sl#	Specification		M/S Wah Industries	M/S App IN SNAP	M/S Sandhu Engineering & Trading Company	M/S Public Surveying System
	Component	Specification	Quoted specification	Quoted specification	Quoted specification	Quoted specification
1.	Type of UAV	Fixed Wing (PPK enabled)	WingtraOne Empty GEN II PPK Enabled	MMC Griffion M9 UAV Fixed Wing, PPK Enabled (Refer Heading 5.1.1)	ORIGIN OH 1804 Fixed Wing PPK Enabled	VIM fixed Wing
2.	Material	Light weight material such as Fiber, glass, carbon, EPP foam or plywood	Glass Fiber	Carbon Fiber Frame (Refer Heading 5.5)	Fiber Glass	Light weight (EPP Foam)
3.	Take off/ landing	(VTOL) Vertical Take-Off & Landing	VTOL	VTOL (Refer Heading 5.1.1 Sr# 2)	VTOL	VTOL
4.	Launch and Landed method	Preferably VTOL due to space limitation in Urban Areas	VTOL	VTOL (Refer Heading 5.1.1 Sr# 2)	VTOL max required is 2 x 2 m space	VTOL
5.	Cruise speed	50 - 60 Km/hour	57km/h	(20 m/s or 72 Km/h)	72km/hour	30m/sec (108Km/hour)
6.	Overlap	Minimum 60 % Side overlap & 80 % Forward overlap	Minimum 60% Side overlap & 80 % Forward overlap	Yes complied, Minimum 60 % Side overlap & 80 % Forward overlap	Capable of 70 % Side and 80% Forward Overlapp	60% 80%
7.	Productivity: Max area coverage	2 Km ² at Altitude of < 250 meters in single flight with 3-5 cm GSD	2 Km ² at Altitude of < 250 meters in single flight with 3-5 cm GSD	Yes, 2 Km ² at Altitude of < 250 meters in single flight with 3-5 cm GSD Max sailing time available	> 4Km ²	2 Km ² at Altitude of < 250 meters in single flight with 3-5 cm GSD
8.	On Board GNSS for PPK	Multi Constellation	GPS+Glonass+Beidou+Galileo	PPK MODULE -BDS, GPS, GLONASS & Galileo (refer heading 5.1.3)	GPS, GLONASS, BiDou	Multi Constellation GPS/BDS
9.	Deployment time	5 – 8 minutes	05 mins	3 MIN	<5min	3-5 min

10	Endurance	Flight time 1 hour +	59 min. theoretically but practically 50-54 min	150 min	90min	2 hours
11.	GNSS for GCP's and PPK	1 X Base, 1 X Rover with Tablet for Field GCP and PPK having RTK range of 10 Km with Internal Radio	SOKKIA GRX3 GPS GNSS Full RTK System with Internal Radio Package	PPK MODULE ADDED (heading 5.1.3	SINO GNSS COMNAV N5 RTK with 10 Km Internal Radio Range	1 X Base, 1 X Rover with Tablet for Field GCP and PPK having RTK range of 10 Km with Internal and external Radios Hi target China
12	Performance Characteristics	Telemetry range > 3 km Horizontal Absolute Accuracy < 2cm when using PPK Fully autonomous Flight Enhanced compatibility with Industry Standard software (camera parameters already automatically recognized)	Telemetry Range:10KM Horizontal Accuracy:1cm with PPK Fully autonomous Flight	Yes, Telemetry range > 3 km Yes, Horizontal Absolute Accuracy < 2cm when using PPK Heading 5.4 Yes, Enhanced compatibility with Industry Heading 5.4, 5.3 and 5.2 Yes, Standard software (camera parameters already automatically recognized)	> 3 Km <2 cm with PPK Fully autonomous flight Fully compatible with industry standard SW like PIX4D Agi Soft and camera parameters	Telemetry range > 3 km PPK + RTK Horizontal / vertical accuracy < 2cm Fully autonomous Flight Enhanced compatibility with Industry Standard software (camera parameters already automatically recognized)Control System with Autopilot Software
13	Temperature Resistance	-20° C to 45° C	-10 to +40 °C	(- 20 °C to 60° C)	-20° C to 45° C	-20° C to 45° C
14	Weather resistance	Wind speed Up to 10 m/s , can fly cross the wind and during moderate rain	10m/s	IP 54 wind resistance level 6 IP 54 moderate Rain	12m/s	≤ 10.7m/sec
15	Storage	Solid state drive (SSD) built into aircraft electronics board for photo and data storage enabling 6 hours of data to be collected	SD CARD	128gb High-speed solid-state drive, Yes 6 hours of data can be collected	Built into Aircraft can store > 6 hours of Data at 5 cm GSD	Solid state drive (SSD) built into aircraft electronics board for photo and data storage enabling

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16	Flight Planning Software	Windows/Android-based flight planning software on portable rugged tablet Flight planning software capable of a. planning multiple separate surveying areas at once b. importing .kml files importing custom Digital Terrain Models (DTM) for up to date terrain	Windows/Android-based flight planning software on portable rugged tablet Flight planning software capable of a. planning multiple separate surveying areas at once b. importing .kml files importing custom Digital Terrain Models (DTM) for up to date terrain	<ul style="list-style-type: none"> • Yes, Windows/Android-based flight planning software on portable rugged tablet. • Windows 10 pro. • Yes, Capable of planning multiple separate surveying areas at once • Yes, Capable of importing .kml files importing custom Digital Terrain Models (DTM) for up to date terrain 	Fully Support windows flight planning SW Flight planning software capable of a. planning multiple separate surveying areas at once b. importing .kml files importing custom Digital Terrain Models (DTM) for up to date terrain	Windows/Android-based flight planning software on portable rugged tablet Flight planning software capable of a. planning multiple separate surveying areas at once b. importing .kml files importing custom Digital Terrain Models (DTM) for up to date terrain
17	Batteries	8 batteries per UAS to have 4 mission minimum in 1 Day	8 Batteries	1 Battery runs for 150 Mins. 4x batteries per flight	Quoted with 8 Batteries per UAV	8 batteries per UAS
18	UAV Hardware (accessories)	<ul style="list-style-type: none"> • Wingspan<1.3 to 1.7m for easy portability • Glass fiber/ Composite • Carbon body for superior aerodynamics and more stable flight • Exchangeable cameras between RGB and • Multispectral (OPTI) • Extension cable for in field charging available • Capability to charge battery 'in the field' using a car battery • Built in safety lights • 2 Navigation lights, • 2 Anti-collision lights - 1km (0.6 miles) of visibility 	<ul style="list-style-type: none"> • Wingspan<1.3 to 1.7m for easy portability • Glass fiber body • Exchangeable cameras between RGB and Multispectral (OPTI) • Extension cable for in field charging available • Capability to charge battery 'in the field' using a car battery • Built in safety lights • 2 Navigation lights. • 2 Anti-collision lights — 1km [0.6 miles] of visibility 	<ul style="list-style-type: none"> • 3378 mm end to end (both wings) • yes Glass Fiber/ Composite • Yes, Carbon Body for Superior Aerodynamic and more stable flight • Yes, Exchangeable cameras between RGB and Multispectral (OPTI) • Will be provided • Yes, Capable of charging using car's battery • Built in Safety lights available • Left red, right green • Yes, 2 Anti-collision lights 1km available 0.6 miles of visibility 	<ul style="list-style-type: none"> • Wingspan 2.5m • Glass fiber body • Exchangeable Cameras • MS Camera quoted as option • Batteries can be charged in field using Inverter • Lights are also available of wings of UAV as per requirement 	<ul style="list-style-type: none"> • Wing span 1.7 m • EPP foam • EPP foam • Exchangeable cameras between RGB and • Multispectral (OPTI) • Extension cable for in field charging available • Capability to charge battery 'in the field' using a car battery • Built in safety lights 2 Navigation lights, 2 Anti-collision lights -1km (0.6 miles) of

						visibilityTool kiSafetyt, Dual Charger
19	Camera	<ul style="list-style-type: none"> • 42 MP mapping/ Lidar Camera • Latest technology • Distortion free • Ability to make in-flight adjustments to camera exposure settings and GPS integrated 	<p>RGB61 Ability to make in-flight adjustments to camera exposure settings and GPS integrated. WingtraPilot can do this only with RGB61 LIDAR not available till Jan, 2024</p>	<p>Yes, 42 MP mapping or better Camera (Thyea X3 tilt camera)</p> <ul style="list-style-type: none"> • Latest model (Refer Heading 5.2) 	<ul style="list-style-type: none"> • Quoted with 42 MP camera as standard • As an Option Lidar with 24 MP camera for color cloud • Most current models • Capable of making changes • GNSS Integrated 	<p>Camera 42 MP (Sony Camera) Lidar GS-100M China</p> <ul style="list-style-type: none"> • Distortion free • Ability to make in-flight adjustments to camera exposure settings • and GPS integrated
20	Authorization	Principal detail & Category	No Authorization from Principal.	Authorization of Principal MMC (MicroMulticopier Aero technology Co, Ltd, China) is available. Gold Partner Service Provider for all company products	Authorization of Principal Xiamen Origin Drones Technology Co, Ltd, China) is available. Gold Partner Category. The CEO of the firm is also trained from Principal for quoted UAV management.	Authorization of principal (Xi'an Super Sonic Aviation Technology co Ltd) is available. However no category is mentioned.
21	Training	One month (flight management, data processing development, trouble shooting etc)	Local Training on purchaser location by officials of Wah Industries	AiS will give at least one month training of quoted approved equipment.	One month Training as per requirement of tender in Rawalpindi	One month Training at Islamabad
22	Pilot Project	One pilot project	One pilot project	Yes, one pilot project will be delivered	Pilot Project in Rawalpindi	Complied
23	Repairing & Maintenance support	<ul style="list-style-type: none"> • One year free, • Service agreement for 2-3 years (extendable on performance) 	FC (OEM Standard TMP+ is enclosed as Annex-4D (Unlimited continuous Warranty, Full accidental damage cover due to technical failure, upgrade drone model	Yes, One Year Free Repair and Maintenance support For 2nd Year support and maintenance support It shall be	Under Warranty repair is free in case of damage parts will be charged SLA for 2 years is possible	Committed for 1x year

			after 4 years, Free replacement of consumable)	quoted if/when requested by the client		
24	Documentation	All manuals in English Languages (both in hard & Soft formats)	FC	All manuals in English Languages (both in hard & Soft formats) will be provided as per requirements	Manuals will be in English	Manuals will be in English

Analysis & Conclusion:

- i. **04 firms** M/S Wah Industries, M/S App IN SNAP, M/S Sandhu Engineering & Trading Company and M/S Public Surveying System have submitted bids
- ii. **M/S Wah Industries has quoted Wingtra One UAV system (Swiss brand) but**
 - a. The quoted UAV does not fulfil the specifications at sl 10,13 & 20
 - b. The firm has failed to produce legal authorization from Principal to quote this UAV. **Firm has provided Authorization of irrelevant distributor i.e Sigma Dubai who are only authorized distributor of Wingtra in UAE, Qatar, Oman, Iraq and Kuwait till December 2023. Sigma Dubai has authorized Wah Industries to participate in the bid to SoP whereas Sigma Dubai is not authorized for Pakistan.**
- iii. **M/S Wah App IN SNAP** has quoted **MMC Griflion M9** UAV system (brand of MicroMultiCopter Aero Technology Co. Ltd, China) and meet all specification parameters
- iv. **M/S Sandhu Engineering & Trading Company** has quoted **ORIGIN OH 1804** UAV system (brand of Xiamen Origin Drones Technology Co. Ltd., China) and meet 80% specification parameters.
- v. **M/S Public Surveying System** has quoted **VIM** UAV system (brand of Xi'an Super Sonic Aviation Technology Co Ltd, China) and meet 80% specification parameters.

Recommendations:

- i. **3x firms M/S App IN SNAP, M/S Sandhu Engineering & Trading Company and M/S Public Surveying System are qualified for demonstration of their product for performance evaluation.**
- ii. **For proper arrangements, the demonstration may be held during 2nd Week of November.**
- iii. **M/S Wah Industries is not technically qualified due to reasons recorded above.**

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Comp: 2 Evaluation of bid for Software for Data Processing including workstation

Sl#	Specification		M/S Wah Industries	M/S App IN SNAP	M/S Sandhu Engineering & Trading Company	M/S Public Surveying System
	Component	Specification	Quoted software: Pix4D Mapper (Perpetual license) bundled with Wingtraone	Quoted software: ??	Quoted software: Agisoft Metashape	Quoted software: Pix4D Mapper
26	Photogrammetric Triangulation	<ul style="list-style-type: none"> Processing of various types of imagery: aerial (nadir, oblique) & close-range, Multispectral Imagery Auto calibration: frame (incl. fisheye, spherical & cylindrical cameras) Multi camera projects support 	PIX4D mapper supports every processing mentioned.	<ul style="list-style-type: none"> Yes, Heading 5.3 Yes, Auto calibration Available Yes, frame (incl. fisheye, spherical & cylindrical cameras) 5 surveying and mapping cameras Heading 5.2.2 	<p>Processing of various types of imagery: aerial (nadir, oblique), close-range, satellite.</p> <p>Auto calibration: frame (incl. fisheye), spherical & cylindrical cameras.</p> <p>Multi-camera projects support.</p> <p>Scanned images with fiducial marks support.</p>	<p>Compliance: The image taken by the UAV can be easily processed in leading Agisoft Pix4D. Software supports all processing options</p> <ul style="list-style-type: none"> Auto calibration: frame (incl. fisheye, spherical & cylindrical cameras) Multi camera projects support
27	Ground Control Points: High Accuracy Surveying	<ul style="list-style-type: none"> GCPs import to control accuracy of the results. Ground Control Point Management: creating, importing and changing projections. Can adjust the point cloud to a single or couple GCPs if no more are available. Coded/non-coded targets auto detection for fast GCPs input. 	PIX4D mapper supports every processing mentioned.	<ul style="list-style-type: none"> Yes, GCPs import to control accuracy of the results. Yes, Capable of Ground Control Point Management: creating, importing and changing projections. Yes, Can adjust the point cloud to a single or couple GCPs if no more are available. Yes, Coded/non- 	<p>GCPs import for georeferencing and control over the accuracy of the results.</p> <p>Coded/non-coded targets auto-detection for fast GCPs input.</p> <p>Scale bar tool to set reference distance without implementation of positioning</p>	<p>Compliance: Although with RTK/PPK functionality, the requirement of GCPs is limited but still if required then the same can be done in Agisoft Pix4D</p> <ul style="list-style-type: none"> GCP import is possible Software can even adjust the point cloud

		<ul style="list-style-type: none"> Scale bar tool to set reference distance without implementation of positioning equipment. 		<ul style="list-style-type: none"> coded targets auto detection for fast GCPs input. yes, Scale bar tool to set reference distance without implementation of positioning equipment. Yes, Elaborate model editing for accurate results. 	equipment.	<p>to single or couple GCPs if there are not many GCPs available.</p> <ul style="list-style-type: none"> Fast GCP input is possible with autodetection of Coded/non-coded targets Yes, Scale bar tool is available to set reference distance. However, in order to scale a project, initial processing has to be completed
28	Point Cloud Management. Editing and Classification	<ul style="list-style-type: none"> Elaborate model editing for accurate results. Georeferences the point cloud to photo, GPS data. Point's classification to customize geometry reconstruction. .LAS export to benefit from classical point data processing workflow Project scaling for accurate scale representation. 	PIX4D mapper supports every processing mentioned.	<ul style="list-style-type: none"> Yes, Capable of Georeferences the point cloud to photo GPS data. Yes, Point's classification to customize geometry reconstruction. Capable yes, .LAS export to benefit from classical point data processing workflow Yes, Project scaling for accurate scale representation available 	<p>Elaborate model editing for accurate results.</p> <p>Automatic multi-class points classification to customize further reconstruction.</p> <p>Import/export to benefit from classical point data processing workflow.</p>	<ul style="list-style-type: none"> Compliance: Pix4D supports all processing options Model editing is possible for enhancing accuracy of results. Generated Point Cloud by default is georeferenced to photo GPS data Pix4D allows Point cloud classification be used for customized geometry reconstruction. .LAS output file is generated by Pix4D, also point cloud be exported in LAZ, PLY, XYZ formats <p>Yes, project scaling is possible for accurate</p>

						representation.
29	Digital Terrain, Surface and Elevation Model: Extraction/ Export	<ul style="list-style-type: none"> • Digital Surface and Terrain Model - depending on the project. • Covert models to contour lines to user defined interval • Supported for Georeferncing based on user friendly parameters • EXIF Meta data/flight log: GPS/GCPs data • 5x times Zoom in-out capacity for analysis • Can crop entire models to selection • Levels out the terrain by averaging height values of the selection points. • Levels out the terrain by the maximum selection point height. 	PIX4D mapper supports Digital Surface and Terrain Models.	<ul style="list-style-type: none"> • Yes, Digital Surface and Terrain Model - depending on the project. • Yes, Capable of Converting models to contour lines to user defined interval Supported for Georeferncing based on user friendly parameters • Yes, All the below mentioned requirements will be furnished • EXIF Meta data/flight log: GPS/GCPs data • 5x times Zoom in-out capacity for analysis • Can crop entire models to selection • Levels out the terrain by averaging height values of the selection points. • Levels out the terrain by the maximum selection point height. 	<ul style="list-style-type: none"> • Digital surface and/or digital terrain model depending on the project. • Georeferencing based on EXIF meta data/flight log, GCPs data. • EPSG registry coordinate systems support: WGS84, UTM, etc. • Configurable vertical datums based on the geoid undulation grids. • DEM editing: breaklines drawing, fill tools. 	<ul style="list-style-type: none"> • Pix4D can generate DSM, DTMs, contours as an output • Georeferncing based on EXIF Meta data/flight log: GPS/GCPs data is supported by Pix4D • Pix4D supports 5x zoom in/out • Entire model can be cropped to selection in Pix4D • Pix4D can level out the terrain by averaging height values by the selected points and by selection of maximum height points
30	3D Model Generation and Texturing	<ul style="list-style-type: none"> • Various scenes: archaeological sites, artifacts, buildings, interiors, people, etc. • Direct upload Sketch fab resource and export to various popular formats. • Photorealistic textures: Realistic texture for 3D mesh.HDR and multi file support 	PIX4D mapper supports every processing mentioned.	<ul style="list-style-type: none"> • Yes, can generate, various scenes: archaeological sites, artifacts, buildings, interiors, people, etc. • Can directly upload Sketch fab resource and export to various popular formats. • Can generate Photo-realistic textures: Realistic texture for 	<ul style="list-style-type: none"> • Various scenes: archaeological sites, artifacts, buildings, interiors, people, etc. • Direct upload to various online resources and export to many popular formats. Photorealistic textures: HDR and 	<ul style="list-style-type: none"> • Pix4D can generate 3D Models and texturing of Various scenes: archaeological sites, artifacts, buildings, interiors, people, etc. • Yes, Direct uploading on Sketch fab resource and export to various popular formats.

				3D mesh. HDR and multi file support	multifile support (incl. UDIM layout).	<ul style="list-style-type: none"> • A Photorealistic and millimeter accurate /realistic textures, 3D mesh is possible • .HDR and multi file are supported
31	Georeferenced Orthomosaic Export	<ul style="list-style-type: none"> • Generating & editing georeferenced orthomosaic GIS-compatible • Support for various resampling algorithm, DEM from other source • Support user defined pixel size during rectification • Multichannel Ortho mosaic generation • GeoTIFF format; .KML file to be located on Google Earth. • Export in blocks for huge projects. • Color/geometric/dynamic correction for homogeneous texture 	PIX4D mapper supports every processing mentioned.	<ul style="list-style-type: none"> • Yes, geo-referenced Ortho mosaic GIS compatible • Support for various resampling algorithm, DEM from other source • Support user defined pixel size during rectification • Multichannel Ortho mosaic generation • GeoTIFF format; .KML file to be located on Google Earth. • Export in blocks for huge projects. • Color/geometric/dynamic correction for homogeneous texture 	<ul style="list-style-type: none"> • Georeferenced orthomosaic: most-GIS-compatible GeoTIFF format; KML files to be located on Google Earth. • Export in blocks for huge projects. • Color correction for homogeneous texture. • Inbuilt ghosting filter to combat artifacts due to moving objects. • Custom planar and cylindrical projection options for close range projects. 	<ul style="list-style-type: none"> • Pix4D allows Generating & editing georeferenced orthomosaic • Pix4D Support various resampling algorithm, DEM from other source • Support user defined pixel size during rectification • Yes, Multichannel Orthomosaic generation is possible • Ye, can be exported in blocks, • Allows Color/geometric/ dynamic correction for homogeneous texture
32	Measurements: Distances, Areas, Volumes	<ul style="list-style-type: none"> • Inbuilt tools to measure areas, lengths and volumes in both 2D and 3D. • To perform more sophisticated metric analysis 	PIX4D mapper supports every processing mentioned.	Yes, Heading 5.1.1 & 5.2	<ul style="list-style-type: none"> • Inbuilt tools to measure distances, areas and volumes. • To perform more sophisticated metric analysis the products of photogrammetric processing can be smoothly transferred to external tools thanks to a variety of export formats. 	<ul style="list-style-type: none"> • Pix4D has Inbuilt tools to measure areas, lengths and volumes in both 2D and 3D. • Software is capable of performing more sophisticated metric analysis

34	Export/Import	<ul style="list-style-type: none"> Export georeferenced point clouds in different format such as LAS, xyz, poly formats Export 3D mesh with textures in .obj and .ply file formats. Export DEM to .obj .tif and Orthophoto to .tif file formats. 	PIX4D mapper supports every processing mentioned.	<ul style="list-style-type: none"> Yes, Export georeferenced point clouds in different format such as LAS, xyz, poly formats Yes, Export 3D mesh with textures in obj and .ply file formats. Export DEM to .obj .tif and Orthophoto to .tif file formats. 	<ul style="list-style-type: none"> Capable to Export clouds as LAS, XYZ and Poly Export 3 D Mesh in OBI and PLY Export DEM in OBI, TIF and Orthophoto formats 	<ul style="list-style-type: none"> Export georeferenced point clouds in different format such as LAS, xyz, poly formats Export 3D mesh with textures in .obj and .ply file formats. Export DEM to .obj .tif and Orthophoto to .tif file formats.
35	Network Processing (Optional)	Distributed calculations over a computer network to use combined power of multiple nodes for huge data sets processing in one project.	PIX4D mapper supports every processing mentioned.	Yes Distributed calculations over a computer network to use combined power of multiple nodes for huge data sets processing in one project	<ul style="list-style-type: none"> Possible by purchasing Network License 	<ul style="list-style-type: none"> Cloud processing of huge datasets on Pix4D software is offered with UAV. Also, the data can be processed over a computer network for distributed calculations and use of combined power of multi-nodes
Workstation						
36	System	Branded	Dell Precision 5470	Branded MMC	Not Quoted	Not Quoted
37	Operating System	Window 10 (64 bit)- Latest or better	Windows 11 Pro	Windows 10 Professional 64 bit	Not Quoted	Not Quoted
38	Processor	2xintel@ Xeon@E5-2687W v3 (14C,3.1 GHz Turbo HT)	12 Gen Intel Core i7-12800H, vPro (14c, 4.80 GHz Turbo)	Intel core i7	Not Quoted	Not Quoted
39	RAM	>32 GB 2133 MHz DDR 4	32 GB DDR5 5200 MHz	Comes with 4 GB, or 8 GB Optional	Not Quoted	Not Quoted
40	Hard Drives	01 TB SAS (10 rpm)	512 GB, M.2 2280, Gen 4 PCIe x4 NVMe, SSD Extended Oyen Digital 8TB NVME SSD	128 GB or Max expandable to 1 TB	Not Quoted	Not Quoted
41	Graphic	Integrated graphic card > 4 GB chipset compatible (Latest Version) or equivalent	NVIDIA RTX A1000, 4 GB GDDR 6/ Equivalent	Yes Integrated graphic card > 4 GB chipset	Not Quoted	Not Quoted

				compatible (Latest Version) or equivalent		
42	LEDs	2 LED (one for stereo viewing)	Acer Predator XB273	Yes will be provided	Not Quoted	Not Quoted
43	UPS	Min 3 KVA or equivalent, with dry batteries	N1 Critical Technologies N1C L-Series Lithium 3000VA 3kVA 120V Lithium-Ion UPS	18650 MAH Lithium	Not Quoted	Not Quoted
44	Accessories	<ul style="list-style-type: none"> • Input output support compatible • Power supply and cables • Wireless Key Board, mouse • Manuals, • 3D Vision glasses/ Support 	<ul style="list-style-type: none"> • Input output support compatible • Power supply and cables • Wireless Key Board, mouse, Manuals, • 3D Vision glasses/ Support 	<ul style="list-style-type: none"> • Yes, Input output support compatible • Yes Power supply and cables • Yes Wireless Key Board, mouse • Yes Manuals • Yes 3D Vision glasses/ Support 	Not Quoted	Not Quoted
Other Mandatory Requirement						
45	Training	One month (flight management, data processing development, troubleshooting etc)	Local Training on purchaser location by officials of Wah Industries	AiS will give at least one month training of quoted approved equipment.	One month Training as per requirement of tender in Rawalpindi	One month Training as per requirement of tender in Rawalpindi
46	Repairing & Maintenance support	<ul style="list-style-type: none"> • One year free, • Service agreement for 2-3 years (extendable on performance) 	FC (OEM Standard TMP+ is enclosed as Annex-4D (Unlimited continuous Warranty, Full accidental damage cover due to technical failure, upgrade drone model after 4 years, Free replacement of consumable)	Yes, One Year Free Repair and Maintenance support For 2nd Year support and maintenance support It shall be quoted if/when requested by the client	Under Warranty repair is free in case of damage parts will be charged. SLA for 2 years is possible	Complied
48	Documentation	All manuals in English Languages (both in hard & Soft formats)	All manuals in English Languages (both in hard & Soft formats)	All manuals in English Languages (both in hard & Soft formats) will be provided as per requirements	Manuals will be in English	Complied

Analysis & Conclusion:

- i. **04 firms** M/S Wah Industries, M/S App IN SNAP, M/S Sandhu Engineering & Trading Company and M/S Public Surveying System have submitted bids
- ii. **M/S Wah Industries has quoted for both Software (Pix 4D) & workstation, but**
 - a. The quote is linked with UAV component for which the firm is not eligible
 - b. The quoted workstation does not fulfil requirement of Hard Drive
- iii. **M/S App IN SNAP has also quoted for both Software & workstation, but**
 - a. The firm has quoted that software fulfils all required function. However they failed to satisfy on software package quoted. So quote is suspicious.
 - b. Sl. 42 is also suspicious quote
- iv. **M/S Sandhu Engineering & Trading Company** has quoted **Agisoft Metashape** that is one of the reputed and highly ranked software but they have **not quoted workstation. Hence bid is incomplete**
- v. **M/S Public Surveying System** has quoted **Pix4D** that is also one of the reputed and highly ranked software but they have **not quoted workstation. Hence bid is incomplete**

Recommendations:

No firm technically qualified due to reasons recoded above. Hence this component may be re-tendered.

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Member (TEC-II)

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