

Section II: Schedule of Requirements- Lot 2

eSourcing reference: ITB/2023/49547- **Rev 3**

A. Summary of Requirements

Lot 2: General surgery Equipment

B. Technical specifications for Goods and Comparative Data Table

All changes made in Rev 3 will be in RED

Item No	Description	Quantity
1	ULTRAPORTABLE, INTELLIGENT ECHOCARDIOGRAPHY DEVICE	3
2	COLOR DOPPLER ULTRASOUND	2
3	INTRAOPERATIVE ULTRASOUND	1
4	VIDEO-ENDOSCOPY COLUMN	1
5	LINEAR DIGESTIVE ECHOENDOSCOPE	1
6	ELECTRO-SURGICAL MACHINE	9
7	STATION OF 10 ELECTRIC SYRINGE PUMPS	16
8	BLOOD PRODUCTS WARMER	7
9	AIR WARMER	12

General requirements for:

- The manufacturer of **all** the equipment must be ISO 13485
- Each device shall be CE marked, conforms to the requirements as per MDR 745/2017 or MDD 93/42 or Provide a Regulatory approval and marketing authorization issued by FDA
- Copy of the above-mentioned certifications shall be included in the offer.
- The supplier must provide Installation, User and technical manual in French preferably or English hard copy for the medical system during delivery on site.
- The supplier should provide the contact of the official representative in Tunisia for each of the equipment offered. The Official representative or distributor of the brand will be in charge of the after sales services during the warranty period.
- The supplier must provide with his/her offer the corresponding Price List of accessories, consumables and most significant spare parts for the items.

Associated services per site

C: DELIVERY AND INSTALLATION

The supplier is responsible and in charge of supplying and installing goods following the below listed minimal conditions:

- 1) DAP at the final user site for each equipment including unloading.
- 2) The bidder must request and include a **waiver of demurrage charges** at the port in Tunisia of at least 30 days.
- 3) The transportation must be done following the manufacturer guidelines (storage conditions , temperature, humidity, move mentation requirements, battery management...) on how to handle the equipment, accessories, consumables and reagents when applicable:
- 4) Every single box delivered must be labelled as follow

3.a- Label on the boxes

The supplier has to ensure that the boxes are labelled as per requirements and with reference to the “principles of Labelling for Medical Devices and IVD Medical Devices”, IMDRF/GRRP WG/N52 FINAL:2019 <https://www.imdrf.org/sites/default/files/docs/imdrf/final/technical/imdrf-tech-190321-pl-md-ivd.pdf>

Region A Color code Region: A	Ministry of Health, TUNISIA UNOPS Office Xxxxxx , TUNIS, TUNISIA		
Beneficiary Hospital Data:	Tender: xxx	Lot xxx	Item xxx
Box	2	of	5
Box Weight kg	Length cm	Width	Height
xxx	xxx	xxx	xxx

3.b- Detailed Packing list of the box contents

The supplier has to ensure that the boxes are labelled as per requirements and with reference to the “principles of Labelling for Medical Devices and IVD Medical Devices”, IMDRF/GRRP WG/N52 FINAL:2019 <https://www.imdrf.org/sites/default/files/docs/imdrf/final/technical/imdrf-tech-190321-pl-md-ivd.pdf>

- 5) The boxes will be opened for contents check before starting the installation and a Report will be signed by the supplier and/or UNOPS:
- 6) All responsibility on the goods are transferred to the beneficiary Hospital once the installation, testing, training and commissioning is done and provisional acceptance documentation duly signed by Beneficiaries, UNOPS and Supplier representatives.

- 7) All the tools, instruments, products, solutions, simulators needed for the Transportation, Installation and testing as per manufacturer guidelines and country regulation must be provided by the supplier during those activities.
- 8) Prior to shipment, the following documents should be sent to UNOPS:
 - · Bill of Lading
 - · Invoice
 - · Packing List

Once UNOPS confirms that the information is correct, then you may proceed with the shipment.

- 9) UNOPS reserves the right to perform Pre-Inspection (virtual or physic) checks before packaging of goods for delivery.
- 10) After the goods are shipped, the supplier must provide to UNOPS an updated delivery plan/schedule at least 2 weeks before DAP delivery on the final beneficiaries sites. UNOPS will facilitate the necessary authorizations and coordinate & confirm delivery dates with the beneficiary hospitals.
- 11) The supplier must be flexible enough to accommodate variations in the deliveries and installation schedule,

D: TESTING AND COMMISSIONING

The supplier is responsible and in charge of Testing the medical system or equipment following the below listed minimal conditions:

- 1) Testing of all the essential functions of the equipment or system complete of accessories with the appropriate tools, measurement equipment, simulators
- 2) Testing of all the technical and clinical data according to manufacturer testing guidelines.
- 3) Recording and archiving of all the testing data. The testing report and test results will be annexed to the provisional acceptance documentation.
- 4) Formal commissioning and provisional acceptance reports must be Co-signed by Supplier, UNOPS, MoH for each site with reference to all the medical equipment or system supplied. The general commissioning is done after the training except if the Hospital delays the training for more than 2 weeks.
- 5) The signed provisional acceptance document is the reference for the warranty period start date.
- 6) Waste management: The supplier is in charge of the safe removal and disposal of all the waste produced during his interventions.
- 7) All the tools, instruments, products, solutions, simulators needed for the installation testing as per manufacturer guidelines and country regulation must be provided by the supplier during those activities.
- 8) The supplier must be flexible enough to accommodate perturbation or delays due to the medical activities in some sites during his intervention.

E: TRAINING REQUIREMENTS

For all the following list of equipment and system , The supplier is responsible and in charge of providing appropriate training for users and biomedical technicians.

- The Training documentation (Operating manual, Technical manual, Training presentation, diagrams, schematics etc.) and training schedule/agenda in French must be provided to the UNOPS team at the latest 90 calendar days after contract signature. UNOPS reserves the right to provide suggestions or recommendations with regards to the training contents.
- The training must be held in French or translated in French
- The trainer(s) must perform the training Onsite (anti-covid prevention / medical insurance /appropriate vaccinations must have been be done by the trainers)

E.1 Training Group 1: Technical Training

Item	Description	Training location	Number of participants	Minimum duration	When
2	COLOR DOPPLER ULTRASOUND	Local distributor	5	5 days	Before equipment installation
3	INTRAOPERATIVE ULTRASOUND	Local distributor	5	5 days	Before equipment installation
4	VIDEO-ENDOSCOPY COLUMN	Local distributor	5	3 days	Before equipment installation
5	LINEAR DIGESTIVE ECHOENDOSCOPE	Local distributor	5	5 days	Before equipment installation
6	ELECTRO-SURGICAL MACHINE	Local distributor	9	2 day	Before equipment installation
7	STATION OF 10 ELECTRIC SYRINGE PUMPS	Local distributor	9	2 days	Before equipment installation

- Training location: Local Distributor Facilities
- Theoretical and practical training sessions on the same model in the distributor's premises by the manufacturer's engineers or equipment specialists.
- Trained technicians will receive a manufacturer's training certificate (equivalent to field service engineer level).

E.2 Training Group 2: Medical users on the use and operation of equipment.

Item	Description	Training location	Number of participants	Minimum duration
1	MOBILE INTELLIGENT ECHOCARDIOGRAPHY DEVICE	Beneficiary sites	5	1 day
2	COLOR DOPPLER ULTRASOUND	Beneficiary sites	5	3 days
3	INTRAOPERATIVE ULTRASOUND	Beneficiary sites	5	3 days
4	VIDEO-ENDOSCOPY COLUMN	Beneficiary sites	5	3 days
5	LINEAR DIGESTIVE ECHOENDOSCOPE	Beneficiary sites	5	5 days
6	ELECTRO-SURGICAL MACHINE	Beneficiary sites	5	1 day
7	STATION OF 10 ELECTRIC SYRINGE PUMPS	Beneficiary sites	5	2 days
8	BLOOD PRODUCTS WARMER	Beneficiary sites	5	1 day
9	AIR WARMER	Beneficiary sites	5	2 hrs

- Starting: After Equipment installation
 - Theoretical session / practical sessions
 - Trained Users will receive a manufacturer's training certificate
 - For items 1,2,3,4,5,8,9, Technical Assistance by clinical application engineers (in situ during operations on patients if applicable) for 2 weeks and at least 10 interventions to enable users to fully familiarize themselves with the equipment (the expected assistance requested during operations is: answering users questions in relation to the technologies installed, clarifications on how to find specific features on the equipments, users guidance during the use of the technologies...)
 - The Trainers must be a manufacturer's product specialist or field application engineer
 - Credentials (certificates, cv,...) must be sent to UNOPS at least 7 days before the start of training.
- 1) Each trainee documentation in French, training accessories (pen, pencil, notepad) must be provided by the suppliers.
 - 2) All the video projectors, Parts, the tools, instruments, products, solutions, simulators, calibrators, internet needed for the training as per manufacturer guidelines and tender requirements must be provided by the supplier during those activities.
 - 3) A training report and attendance list must be produced to MoH & UNOPS
 - 4) Waste management: The supplier is in charge of the safe removal and disposal of all the waste produced during his interventions.
 - 5) The supplier must be flexible enough to accommodate perturbation or delays due to the medical activities in some sites during his intervention.

E.3 The training minimum objectives to achieve are:

a) Users

Theoretical session

- Introduction to the equipment (general presentation, description, functionalities)
- Presentation of the equipment parts and system components (Knobs, Display...) + accessories + Installation
- Presentation of accessories and their installation/integration
- Risks or conditions leading to incorrect operations of the medical system
- Functionalities, Parameters
- Reporting
- Safe start and stop for the medical system
- How to set up the parameters How to configure the equipment or system
- How to interpret/understand messages/warnings
- Mastering of the equipment use with reference to the expected clinical uses in the hospital
- Visual inspection, testing and cleaning

Demo - Hands On - Practical session

- Demonstration, hands-on work
- Demonstration and hands-on use of all relevant safety devices, accessories and consumables.

b) Biomedical Technicians

Theoretical session

- Users training + scope of equipment, machine parameters, operating environment
- Equipment principles of operation
- Study of Circuits, block diagrams, circuit diagrams, electronic board, hydraulic circuit, pneumatic circuit
- Device units, Boards and electronics testing
- Common fault / Failures & Solutions
- Troubleshooting
- Routine Testing & Preventive Maintenance (planning of operations: frequency, tools required, overhaul kit and consumables or supplies).
- QC norms and standards

Demo - Hand On - Practical session

- Preventive and corrective maintenance (with fault simulation and correction): case studies.
- Quality control (control procedures, measuring equipment, standards, etc.).
- Parts replacements: Disassembly and assembly of machine units.
- Practical description of machine parameters (operating mode /programs).
- Describe the machine's technical parameters in practice (technical mode).

F: MAINTENANCE AND TECHNICAL SUPPORT REQUIREMENTS

For all the equipment and system provided, during warranty years, the supplier is responsible and in charge of

- Preventive maintenance
- Corrective Maintenance / Repairs
- Technical support (remote/onsite) to the Hospital

These activities must be performed following the below listed minimal conditions:

- 1) All the Parts, the tools, instruments, products, solutions, simulators needed for the preventive maintenance, repairs as per manufacturer guidelines and country reglementation must be provided by the supplier during those activities.
- 2) After the Maintenances a general Testing of all the essential functions of the equipment or system complete with accessories with the appropriate tools, measurement equipment, simulators and Testing of all the technical and clinical data according to manufacturer testing guidelines must be performed. In conformity with IEC 62353 or IEC 60601
- 3) An Intervention report must be produced to MoH & UNOPS after each intervention with indications of parts used code, tools, instruments, cost of the replacement parts or maintenance kits.
- 4) All the fees requested for providing the maintenance and technical support are supported by the supplier.
- 5) Waste management: The supplier is in charge of the safe removal and disposal of all the waste produced during his interventions.
- 6) The supplier must be flexible enough to accommodate perturbation or delays due to the medical activities in some sites during his intervention.
- 7) The supplier or local representative response delay in case of notification should be less than 2hrs
- 8) The time between the issue notification and the start of the intervention on site must be less than 48hrs .
- 9) The out of order time due to fault monthly should be less than 72 hours / 3 days
- 10) A Minimum of two (2) preventive maintenance visits (1 per semester) during the warranty year must be included in the package
- 11) The provisional acceptance will be done after the full commissioning of the medical system and the final acceptance will be done with the beneficiary representative after the warranty year following the evaluation of the performance of the equipment and after sales services provided by the local or regional representative.

G: WASTE MANAGEMENT, HYGIENE, SECURITY AND SAFETY

The sites are functional hospitals with medical and logistical activities involving several categories of people, equipment and vulnerable infrastructures.

The supplier is responsible for the removal and safe disposal of all waste generated during its operations. Waste disposal must not be integrated into the beneficiary hospitals' waste processing chain.

- A preliminary waste management plan will be provided with the technical offer for evaluation. UNOPS reserves the right to request adjustments to the waste management plan in line with best practice in the country.
- A methodology or preliminary plan for the prevention of incidents and accidents involving materials, equipment and people during the supplier interventions (from delivery till commissioning) must be provided with the bid. UNOPS reserves the right to request adjustments to the plan in accordance with good safety and environmental management practices in force in the country.

The successful supplier will be required to take out an insurance policy covering accidents or incidents involving damage to persons or property in the beneficiary hospitals.

The supplier is responsible for the security of the materials, tools, equipment used to provide the requested services.


H: REQUIRED ADDITIONAL DOCUMENTATION

- The supplier must provide with his/her offer the corresponding Price List of accessories, consumables, annual maintenance kits and most significant spare parts for the items or medical system.

Item 1. ULTRAPORTABLE, INTELLIGENT ECHOCARDIOGRAPHY DEVICE

Item No	UNOPS minimum technical requirements	Quantity
1. ULTRAPORTABLE, INTELLIGENT ECHOCARDIOGRAPHY DEVICE	<i>High-level portable point of care ultrasound equipment use for real time general diagnostics imaging or monitoring during intervention</i>	3
	REQUIREMENTS: ELECTRICAL, ELECTROMAGNETIC, DIMENSIONS, DOCUMENTATION...	
	Provide a Regulatory approval and marketing authorization (FDA, CE); CE Certification as per MDR 745/2017 or MDD93/42	
	Power supply requirements: 230VAC +/- 10% , 50Hz single-phase	
	Internal protection against overvoltage and overcurrent.	
	Battery autonomy of at least 120min of continuous operation	
	All system components must have FRENCH or ENGLISH as interface language	
	The medical system will be supplied with : User manual in French or English- electronic and hard copy as well as all user passwords	
	The medical system will be supplied with : Technical manual in French or English - electronic and hard copy as well as all technical / access passwords	
	OPERATIONAL FEATURES	
	Brand and Model	
	Provided detailed datasheets for Ultrasound device and transducers	
	Weight of device with battery below 2 Kg	
	Ultra portable ultrasound unit and transducers used for general Point of Care exploration of the tissues or organs, providing interactive and timely information/ imaging; supports noninvasive Cardiac, Thoracic/Lung, Abdominal, Vascular/Peripheral Vascular, Musculoskeletal and interventional guidance (includes needle/catheter placement, fluid drainage, and nerve block).	
	DICOM 3.0 full licensed connectivity with at least the following services: Send, Print, Storage, Query, Retrieve	
	The equipment must allow software and hardware updates.	
	Back-up softwares to be supplied.	
	Image verification and adjustment	
	On-screen measurements	
	Multifrequency (fundamental, harmonic)	
	Image presets and parameter programming (patient data, examination types, imaging modes, annotations, measurements, calculations)	
	Freezed image and real time dynamic zoom	
	Zoom area control, with automatic image optimization.	
	256 grayscales and more	
	Predefined and programmable reports	
	Operating modes	
	2D mode	
	3D mode	
	TM mode	
	Color Doppler mode (Pulsed, Continuous, Power)	

	Features	
	Automated examination protocolization	
	Automated measurements and calculations	
	AI-assisted measurements	
	AI-assisted interpretation	
	The equipment must at least be able to make the below	
	General measurements:	
	Distances.	
	Area.	
	Volumes.	
	Time interval.	
	Depth differences.	
	Speeds.	
	Stenosis percentage.	
	Angles.	
	Systolic/Diastolic ratio.	
	Heart rate.	
	Peak and average pressure gradient.	
	Monitor/Screen:	
	Built-in Wi-Fi and bluetooth	
	At least 5" full HD Monitor, 4K or better	
	Touchscreen	
	Menus, messages on screen.	
	Text annotations.	
	Body markers.	
	Image orientation indicator.	
	Storage and archiving:	
	Storage of patient data and images on an internal hard drive of at least 100 Gigabytes (GB).	
	It must allow video storage in commonly used formats such as: AVI, MPEG, MP4.	
	It must allow the storage of images in commonly used formats such as: BMP, JPEG, TIF.	
	Post-processing capacity for image and video files.	
	Communication, storage and transfer interface:	
	At least one (1) port for connecting peripheral devices.	
	Transducers:	
	1 or 2 if applicable broadband Doppler probes for: abdominal explorations and cardiac, thoracic, muscular, vascular explorations	
	CONSUMABLES AND ACCESSORIES INCLUDED	
	Supply of complete overhaul kit / preventive maintenance for the warranty year	
	Includes cleaning accessories / test tools for transducers	
	One (1) ultrasonography gel dispensing reusable bottles, each holding at maximum 350 ml.	
	One (1) genuine suitcase for transporting and protecting each transducer.	

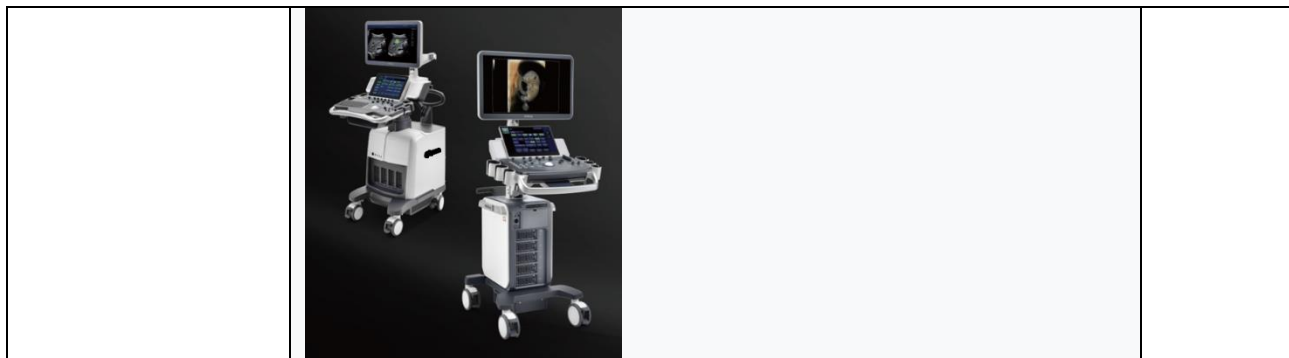
	One (1) genuine suitcase for transporting the ultrasound machine	
	One or two broadband Doppler transducers	
	Include the respective interconnection accessories and power accessories of the different components.	
	Protective covers with the Ultrasonography Equipment and its accessory equipment.	
	WARRANTY	
	Full Warranty 2 Years	
	ANCILLARY SERVICES INCLUDED	
	On-site delivery, installation , See Associated Services	
	Testing & Commissioning, See Associated Services	
	2-year preventive maintenance, repairs and technical assistance during the warranty year, See associated Services	
	Training of medical staff, See Associated Services	
	Training of technical personnel, See Associated Services	
	The images below are intended solely as a guiding support and should be considered as purely indicative and not restrictive of the expected item characteristics:	
		

Item 2. COLOR DOPPLER ULTRASOUND

Item No	UNOPS minimum technical requirements	Quantity
2. COLOR DOPPLER ULTRASOUND	Fully digital color Doppler multipurpose ultrasound scanner (digital beamformer) with the latest version of electronic scanning (sectorial, linear and convex), for visceral, vascular, obstetrical-gynecological and soft-tissue explorations.	2
	REQUIREMENTS: ELECTRICAL, ELECTROMAGNETIC, DIMENSIONS, DOCUMENTATION...	
	Provide a Regulatory approval and marketing authorization (FDA, CE); CE Certification as per MDR 745/2017 or MDD93/42	
	Power supply requirements: 230VAC +/- 10% , 50Hz single-phase	
	Internal protection against overvoltage and overcurrent.	
	All system components must have FRENCH or ENGLISH as interface language	
	The medical system will be supplied with : User manual in French or English- electronic and hard copy as well as all user passwords	
	The medical system will be supplied with : Technical manual in French or English - electronic and hard copy as well as all technical / access passwords	
	OPERATIONAL FEATURES	

	Ultrasound system made of Ultrasound machine, UPS, Thermal printer, Probes	
	Ultrasound machine Brand and Model	
	Provided detailed datasheets for Ultrasound machine, UPS, Thermal printer and Probes	
	Central processing unit on mobile cart with adjustable, swiveling display monitor, minimum 21" flat screen.	
	- Hard disk, minimum capacity 500 GB	
	- DICOM 3.0 full licensed connectivity with at least the following services: Send, Print, Storage, Query, Retrieve, Structured Reporting, Modality Performed Procedure Step (MPPS), Modality Worklist.	
	Standard ports, including USB, Ethernet, video output	
	- DVD burner	
	- Back-up softwares to be supplied.	
	UPS for the entire ultrasound scanner and peripherals	
	Reprographic printer on B&W thermal paper	
	Convex broadband Doppler probe frequency including 4 - 7 MHz for adult abdominal exploration	
	Linear broadband Doppler probe frequency including 10 - 14MHz for peripheral vascular, soft-tissue (breast, thyroid) and musculoskeletal examinations.	
	Pencil or CW Doppler probe frequency including 2 - 4 MHz The pencil or CW Doppler probe will be used for adult & paediatric cardiac and transcranial doppler applications. However a pencil probe with frequency allowing both cardiac and vascular applications is the best option. In case of mono frequency, the specific frequency will fall between 2 - 4mHz . In case of frequency band the expected range of 2- 4mhz.	
	Sectorial / Cardiac Doppler probe frequency including 3 - 7 MHz for cardiac examinations	
	Indicate the recommended gel brands and accepted disinfectants	
	Device using beamformers and digital signal summation: number of channels greater than 1 million	
	Device Broadband Maximum frequency ≥ 18 MHz	
	At least 18" full HD Monitor 4K or better	
	At least three active probe connectors in addition to the pencil probe	
	B mode, TM mode	
	Pulsed Doppler mode with orientable beam and optimized sounds.	
	Color Energy Doppler mode	
	Color mode: color associated with images (B; 2 B; B +D; D)	
	Automatic image optimization	
	Cineloop mode with continuous loop playback	
	Composite imaging	
	Harmonic imaging on both the requested probes	
	Slow flow detection	

	Variable depth scan fields > 30 cm	
	256 gray levels minimum	
	2D image acquisition rate ≥ 1500 fps	
	Zoom in real time and on variable frozen image	
	Electronic focusing on transmit and receive	
	Network card: 10/100 BT (R J 45 socket)	
	Dynamic gain >200 dB.	
	Gain curve adjustment	
	Reduction of artifacts generated by incidence angles and edge enhancement.	
	Pulsed Doppler and spectral analysis :	
	- Triplex mode (B + Color + Doppler)	
	- Adjustable sample volume: ≤ 1 mm and ≥ 15 mm	
	- Variable gain minimum 50 dB	
	- Variable PRF and HPRF	
	PRF min ≤ 1 kHz	
	HPRF max ≥ 20 kHz	
	- Automatic spectrum baseline adjustment	
	Color Doppler :	
	- Variable scan rate	
	- PRF max ≥ 19 kHz	
	CONSUMABLES AND ACCESSORIES INCLUDED	
	Supply of complete overhaul kit / preventive maintenance for the warranty year: - At least	
	Qty 10: HD paper rolls	
	Qty 1: Ultrasound gel bottle	
	Qty 1: Genuine cart	
	Qty 1: UPS for the entire ultrasound scanner and peripherals	
	Qty 1: Reprographic printer on B&W thermal paper	
	Qty 1: Convex broadband Doppler probe	
	Qty 1: Linear broadband Doppler probe	
	Qty 1: Pencil or CW Doppler probe	
	Qty 1: Sectorial / Cardiac Doppler probe	
	WARRANTY	
	Full Warranty 2 Years	
	ANCILLARY SERVICES INCLUDED	
	On-site delivery, installation , See Associated Services	
	Testing & Commissioning, See Associated Services	
	2-year preventive maintenance, repairs and technical assistance during the warranty year, See associated Services	
	Training of medical staff, See Associated Services	
	Training of technical personnel, See Associated Services	
	The images below are intended solely as a guiding support and should be considered as purely indicative and not restrictive of the expected item characteristics:	




Item 3. INTRAOPERATIVE ULTRASOUND

Item No	UNOPS minimum technical requirements	Quantity
3. INTRAOPERATIVE ULTRASOUND	<i>High-level intraoperative ultrasound equipment use for real time general diagnostics imaging or monitoring during surgery</i>	1
	REQUIREMENTS: ELECTRICAL, ELECTROMAGNETIC, DIMENSIONS, DOCUMENTATION...	
	Provide a Regulatory approval and marketing authorization (FDA, CE); CE Certification as per MDR 745/2017 or MDD93/42	
	Power supply requirements: 230VAC +/- 10% , 50Hz single-phase	
	Internal protection against overvoltage and overcurrent.	
	All system components must have FRENCH or ENGLISH as interface language	
	The medical system will be supplied with : User manual in French or English- electronic and hard copy as well as all user passwords	
	The medical system will be supplied with : Technical manual in French or English - electronic and hard copy as well as all technical / access passwords	
	OPERATIONAL FEATURES	
	Ultrasound system made of Ultrasound machine, UPS, Thermal printer, Probes	
	Ultrasound machine Brand and Model	
	Provided detailed datasheets for Ultrasound machine, UPS, Thermal printer and Probes	
	Mobile ultrasound unit for general intraoperative exploration of the tissues or organs, providing interactive and timely information during surgical procedures	
	Central processing unit on mobile cart with adjustable, swiveling display monitor, minimum 18" flat screen.	
	Standard ports, including USB, Ethernet, video output	
	DICOM 3.0 full licensed connectivity with at least the following services: Send, Print, Storage, Query, Retrieve, Structured Reporting, Modality Worklist.	
	The equipment must allow software and hardware updates.	
	Connectivity through Ethernet port to DICOM interface, enabling file transferring.	
	DVD burner	
	Back-up softwares to be supplied.	

	UPS for the entire ultrasound scanner and peripherals , system autonomy at least 60min	
	Reprographic printer on B&W thermal paper	
	Hardware and software configuration for: linear; convex; endocavity; microconvex; phased array; pencil.	
	Image verification and adjustment	
	On-screen measurements	
	Integrated illuminated keyboard and control buttons, scroll wheels, trackball/mouse pad (multilingual identification)	
	2D and 3D imaging	
	Multifrequency (fundamental, harmonic)	
	Image presets and parameter programming (patient data, examination types, imaging modes, annotations, measurements, calculations)	
	Freeze image zoom of at least 10X.	
	Real-time dynamic zoom of at least 4X.	
	256 greyscales and more	
	Predefined and programmable reports	
	Minimum modes of operation:	
	2D mode.	
	M mode.	
	B/M mode.	
	Doppler modes:	
	- Color Coded Doppler (Color Doppler).	
	- Continuous Doppler (CW).	
	- Pulsed Doppler (PW).	
	- Power Doppler.	
	- Spectral Doppler.	
	Tissue harmonic images (THI) mode	
	General measures, at least:	
	Distances.	
	Area.	
	Volumes.	
	Time interval.	
	Depth differences.	
	Speeds.	
	Stenosis percentage.	
	Angles.	
	Systolic/Diastolic ratio.	
	Heart rate.	
	Resistivity index (RI).	
	Pulsatility index (PI).	
	Peak and average pressure gradient.	
	Monitor:	
	Monitor arm locking system	
	At least 18" full HD Monitor, 4K or better	
	Floating arm for flexible monitor positioning according to intraoperative needs.	


	Color	
	Control panel composed of:	
	Alphanumeric keyboard or touch-screen for data entry.	
	Trackball or touchpad for movements.	
	Configurable buttons.	
	Backlit for easy reading and location.	
	Information display on screen:	
	Menus, messages on screen.	
	Text annotations.	
	Body markers.	
	Image orientation indicator.	
	Storage and archiving:	
	Storage of patient data and images on an internal hard drive of at least 500 Gigabytes (GB).	
	It must allow video storage in commonly used formats such as: AVI, MPEG, MP4.	
	It must allow the storage of images in commonly used formats such as: BMP, JPEG, TIF.	
	Zoom display, with zoom area control, with automatic image optimization.	
	With the ability to review static and moving images, reports, measurements and prints.	
	Post-processing capacity for image and video files.	
	Communication, storage and transfer interface:	
	At least two (2) USB ports for connecting peripheral devices.	
	At least one (1) High Definition Multimedia Interface (HDMI) port.	
	The system must have a maximum dynamic range of at least 160 dB.	
	Capacity to use and availability of laparoscopic transducer.	
	Protocols for nerves, small parts, vascular,	
	Mechanical features	
	Medical system mounted to allow safe assembly and transport of the main equipment and its accessories	
	4 Wheels with at least 2 brakes	
	Multifrequency transducers of the same brand as the equipment offered with broadband technology must be included, with capacity for all the required studies.	
	Four (4) transducers:	
	One (1) T-shaped intraoperative transducer	
	Bandwidth [MHz]: 5 to 10 or wider range.	
	Application: Intraoperative, abdomen, pediatric.	
	One (1) Microconvex Intraoperative transducer	
	Bandwidth [MHz]: 5 to 9 or wider range.	
	Application: Intraoperative.	
	One (1) Hockey stick Intraoperative transducer	
	Bandwidth [MHz]: 7 a 12 or wider range.	
	Application: Musculo-skeletal, nerve, small parts, vascular.	
	One (1) Laparoscopic ultrasound Transducer	

	<p>Bandwidth [MHz]: 4 a 10 or wider range.</p> <p>Application: Intra operative</p> <p>WARRANTY</p> <p>Full Warranty 2 Years</p> <p>ADDITIONNAL CONSUMABLES AND ACCESSORIES INCLUDED</p> <p>Supply of complete overhaul kit / preventive maintenance for the warranty year</p> <p>Includes cleaning accessories / test tools for probes</p> <p>Dedicated or integrated 4-wheel antistatic cart with brakes and accessory compartment (shelf/drawer).</p> <p>Including drawers/shelves for accessories and printer.</p> <p>Including holders for probes and gel bottle</p> <p>Two (2) ultrasonography gel dispensing reusable bottles, each holding at least 250 ml.</p> <p>One (1) genuine suitcase dedicated for transporting and protecting each specific transducer.</p> <p>One (1) Medical thermal printer: Resolution ≥ 300 dpi for high quality images.</p> <p>Ten (10) rolls of HD paper for thermal printer</p> <p>One (1) T-shaped intraoperative transducer</p> <p>One (1) Microconvex Intraoperative transducer</p> <p>One (1) Hockey stick Intraoperative transducer</p> <p>One (1) Laparoscopic ultrasound Transducer</p> <p>Twenty five (25): Sterile Cover for intraoperative use for each probe supplied if applicable</p> <p>Include the respective interconnection accessories of the different components.</p> <p>Protective covers with the Ultrasonography Equipment and its accessory equipment.</p> <p>ANCILLARY SERVICES INCLUDED</p> <p>On-site delivery, installation , See Associated Services</p> <p>Testing & Commissioning, See Associated Services</p> <p>2-year preventive maintenance, repairs and technical assistance during the warranty year, See associated Services</p> <p>Training of medical staff, See Associated Services</p> <p>Training of technical personnel, See Associated Services</p>	
	<p>The images below are intended solely as a guiding support and should be considered as purely indicative and not restrictive of the expected item characteristics:</p> 	

Item 4. VIDEO-ENDOSCOPY COLUMN

Item No	UNOPS minimum technical requirements	Quantity
4. VIDEO-ENDOSCOPY COLUMN	<i>A digestive video endoscopy column for examining the digestive tract.</i>	1
	REQUIREMENTS: ELECTRICAL, ELECTROMAGNETIC, DIMENSIONS, DOCUMENTATION...	
	Provide a Regulatory approval and marketing authorization (FDA, CE); CE Certification as per MDR 745/2017 or MDD93/42	
	Power supply requirements: 230VAC +/- 10% , 50Hz single-phase	
	Internal protection against overvoltage and overcurrent.	
	All system components must have FRENCH or ENGLISH as interface language	
	The medical system will be supplied with : User manual in French or English- electronic and hard copy as well as all user passwords	
	The medical system will be supplied with : Technical manual in French or English - electronic and hard copy as well as all technical / access passwords	
	OPERATIONAL FEATURES	
	Medical System consisting of at least : Video gastroscopy, Video colonoscopy, Video Duedonoscopy, Image processor, HD medical digital video recorder, Printer. The processor enables image control and distribution to peripheral devices (printer, video, monitor, etc.).	
	Provide detailed data sheet of each component of the medical system	
	- Waterproof keyboard, protected against liquids.	
	- Color and brightness control or adjustment feature	
	- Electronic zoom, minimum 1.5X magnification or full-screen magnification	
	- Real-time image capture	
	- Ports for image and video transfer	
	- High-definition image processing	
	- HD output for high-definition image transfer	
	- Electronic endoscopic coloration feature	
	2/ A cold light generator :	
	Brand and Model	
	Minimum power 300w	
	Xenon lamp with a service life above 500 hours or LED lamp light	
	Emergency light with adjustable insufflation pump.	
	3/ A monitor :	
	Brand and Model	
	A minimum 19" HD high-definition color LED monitor for medical use, mounted on the cart.	
	4/ Adult video gastroscope :	
	Brand and Model	
	Equipped with a high-definition HD color CCD sensor or equivalent	
	Distal tip diameter: ≥9 and ≤ 10mm	

	Depth of field: from 4 to 100mm minimum.	
	Operating channel diameter: ≥2.8mm.	
	Tip angulation	
	- Top ≥ 200°	
	- Bottom ≥ 90°	
	- Right / Left ≥ 100°	
	Useful length ≥ 1000 mm	
	Field of view angle ≥ 140°	
	Processor, monitor, cable and endoscope must be compatible to produce a high-definition image.	
	5/ A video colonoscope :	
	Brand and Model	
	Equipped with a high-definition HD color CCD sensor or equivalent	
	Distal tip diameter: < 14 mm	
	Depth of field: from 4 to 100 mm minimum.	
	Operating channel diameter: ≥ 3.2 mm.	
	Tip angulation	
	- Up ≥ 180°	
	- Bottom ≥ 180°	
	- Right ≥ 160°	
	- Left ≥ 160°	
	Field of view ≥ 140°	
	Useful length ≥ 1500 mm	
	Water jet function	
	Processor, monitor, cable and endoscope must be compatible to produce a high-definition image.	
	6/ A video duodenoscope :	
	Brand and Model	
	Equipped with a color CCD sensor with minimum resolution 400,000 pixels or equivalent	
	Distal tip diameter: ≤14 mm	
	Depth of field: 5 to 60 mm minimum.	
	Operating channel diameter: ≥ 4.2 mm.	
	Tip angulation	
	- Top ≥ 120°	
	- Bottom / Right / Left ≥ 90°	
	Field of view ≥ 90°	
	Useful length ≥ 1200 mm	
	Processor, monitor, cable and endoscope must be compatible to produce a high-definition image.	
	7/ Laser Color printer: high photographic quality	
	Brand and Model	
	Resolution image: ≥ 1200 dpi	
	8/Original mobile cart	
	Brand and Model	
	Cart with a minimum of 03 levels.	
	Integrated multiple socket including power cable.	
	Antistatic wheels with braking system.	
	ADDITIONNAL CONSUMABLES AND ACCESSORIES INCLUDED	


	Supply of complete overhaul kit / preventive maintenance for the warranty year	
	- Qty 20 disposable biopsy forceps	
	- Qty 01 leak tester.	
	- Qty 02 cleaning brushes.	
	- Protective cases for scopes/probes transport	
	WARRANTY	
	Full Warranty 2 Years	
	ANCILLARY SERVICES INCLUDED	
	On-site delivery, installation , See Associated Services	
	Testing & Commissioning, See Associated Services	
	2-year preventive maintenance, repairs and technical assistance during the warranty year, See associated Services	
	Training of medical staff, See Associated Services	
	Training of technical personnel, See Associated Services	
	The images below are intended solely as a guiding support and should be considered as purely indicative and not restrictive of the expected item characteristics:	
		

Item 5. LINEAR DIGESTIVE ECHOENDOSCOPE

Item No	UNOPS minimum technical requirements	Quantity
5. LINEAR DIGESTIVE ECHOENDOSCOPE	<i>A digestive echo-endoscopy system for examining the digestive tract and visualizing the structures of the digestive tract (esophagus; stomach; duodenum; sigmoid colon; rectum, as well as certain organs adjacent to the digestive tract such as pancreas; biliary tract; mediastinum; pelvic cavity.) using high-definition endoscopic & ultrasound images.</i>	1
	REQUIREMENTS: ELECTRICAL, ELECTROMAGNETIC, DIMENSIONS, DOCUMENTATION...	
	Provide a Regulatory approval and marketing authorization (FDA, CE); CE Certification as per MDR 745/2017 or MDD93/42	
	Power supply requirements: 230VAC +/- 10% , 50Hz single-phase	
	Internal protection against overvoltage and overcurrent.	
	All system components must have FRENCH or ENGLISH as interface language	
	The medical system will be supplied with : User manual in French or English- electronic and hard copy as well as all user passwords	

	<p>The medical system will be supplied with : Technical manual in French or English - electronic and hard copy as well as all technical / access passwords</p> <p>OPERATIONAL FEATURES</p> <p>I- Echography Features</p> <p>Brand & Model; Provide detailed datasheet</p> <ul style="list-style-type: none"> - Digital beamforming and signal summation technology - Mode B, Mode Time Motion - Pulsed Doppler mode - Color Doppler mode - Energy Doppler mode - Elastography mode - Cineloop mode with continuous loop review - Harmonic imaging - Network 10/100 BT ; R J 45 socket - Variable depth scan fields - Zoom in real time image - Zoom in frozen image - Electronic focus <p>I.a - Image pre-processing :</p> <ul style="list-style-type: none"> - Variable dynamic gain - Gain curve adjustment - Edge enhancement <p>Doppler characteristics :</p> <p>a) Pulsed Doppler and Spectral Analysis :</p> <ul style="list-style-type: none"> - Steerable Doppler: - Specify adjustable sample volume in mm - Variable Gain in dB - PRF and HPRF variable in KHz: - Spectrum baseline setting: <p>b) Color Doppler :</p> <ul style="list-style-type: none"> - Variable scan rate in i/s: - Variable PRFin kHz: <p>I.b - Image storage and management systems :</p> <ul style="list-style-type: none"> - Image storage on hard disk and flash disk or flash card: - DICOM 3.0 full licensed connectivity with at least the following services: Send, Print, Storage, Query, - DVD burner <p>II- ENDOSCOPIC FUNCTION :</p> <p>II.a - Optical system :</p> <p>Linear probe :</p> <p>Brand & Model; Provide detailed datasheet</p> <ul style="list-style-type: none"> - Erector for therapy probe - Operating channel diameter ≥ 3.7 mm - US Maximum Frequency ≥ 10 MHz - Field of view $\geq 100^\circ$ - US Exploration field $\geq 150^\circ$ - Oblique direction of vision $\geq 40^\circ$ - Depth of vision ≥ 5 to 100 mm 	
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	<ul style="list-style-type: none"> - Tip angulation Up / Down $\geq 120^\circ / 90^\circ$ Right / Left $\geq 90^\circ / 90^\circ$ - Fitting length (insertion tube) $L \geq 1250$ mm - Total length $L \geq 1550$ mm 	
	Radial probe : Brand & Model; Provide detailed datasheet <ul style="list-style-type: none"> - Operating channel diameter ≥ 2.2 mm - US Maximum Frequency ≥ 10 MHz - Field of view $\geq 100^\circ$ - US Exploration field 360° - Depth of vision ≥ 5 to 100 mm - Tip angulation Up / Down $\geq 130^\circ / 90^\circ$ Right / Left $\geq 90^\circ / 90^\circ$ - Fitting length (insertion tube) $L \geq 1250$ mm - Total length $L \geq 1550$ mm 	
	II.b - Video processor: Brand & Model; Provide detailed datasheet <ul style="list-style-type: none"> - A digital processor for image control, processing, freezing... distribution to peripherals such as printer, monitor, computer - Waterproof keyboard, protected against liquids - Color and brightness adjustment system - Electronic zoom, minimum 1.5x magnification or full-screen display - Digital output for image and video transfer - Image processing - Chromo endoscopy 	
	II.c - Cold light generator : Brand & Model; Provide detailed datasheet <ul style="list-style-type: none"> - Compatible with video echo-endoscope system - Xenon lamp illumination, minimum power 300 W, or LED lamp light - back-up lamp included 	
	II.d - Monitor : Brand & Model <ul style="list-style-type: none"> ≥ 18" HD high-definition color monitor for medical use, 4K or better - Mounted on the mobile cart - Allow simultaneous display of the endoscopic and ultrasound images 	
	EXPECTED CONFIGURATION AND ACCESSORIES	
	<ul style="list-style-type: none"> - Ultrasound unit: - Pulsed Doppler module: - Color Doppler module: - Memory loop (cineloop): - Color Energy Doppler Module: - Harmonic Imaging Module: - Linear and Radial Probes - On-line inverter for the entire echo-endoscope and peripherals 	
	Brand & Model; Provide detailed datasheet	

	- Digital video processor:	
	- Light generator:	
	- HD- monitor	
	- Laser printer (B&W and color)	
	- Linear echo-endoscopic Doppler probe for digestive tract exploration and therapy.	
	- Radial echo-endoscopic Doppler probe for digestive tract investigations.	
	- Leakage tester for both echo-endoscopic probes	
	- Dedicated genuine mobile cart for all echo-endoscope system components, Antistatic wheels with braking system ; containing a minimum of 4 shelves, 1 keyboard holder and supports for the echo-endoscope probe .	
	- CO2 insufflator: Brand & Model; Provide detailed datasheet	
	- Disposable biopsy forceps Qty 40	
	- Cleaning brushes Qty 4	
	- Protective case (for transport) for each probe	
	- Supply of complete overhaul / Preventive maintenance kits for the whole system for the warranty year	
	WARRANTY	
	Full Warranty 2 Years	
	ANCILLARY SERVICES	
	On-site delivery, installation , See Associated Services	
	Testing & Commissioning, See Associated Services	
	2 years Preventive, corrective/repair and technical assistance maintenance for users during the warranty period, See Associated Services	
	Training of medical staff, See Associated Services	
	Training of technical personnel, See Associated Services	
	The images below are intended solely as a guiding support and should be considered as purely indicative and not restrictive of the expected item characteristics:	
		

Item 6. ELECTRO-SURGICAL MACHINE

Item No	UNOPS minimum technical requirements	Quantity
6. ELECTRO-SURGICAL MACHINE	<i>Medical Equipment used for monopolar and bipolar cutting, as well as monopolar and bipolar coagulation, designed for all surgical procedures including under water interventions.</i>	9


	Requirements: Electrical, Electromagnetic, Dimensions, documentation...	
	Provide a Regulatory approval and marketing authorization (FDA, CE); CE Certification as per MDR 745/2017 or MDD93/42	
	Power supply requirements: 230VAC +/- 10% , 50Hz single-phase	
	Internal protection against overvoltage and overcurrent.	
	All system components must have FRENCH or ENGLISH as interface language	
	The medical system will be supplied with : User manual in French or English- electronic and hard copy as well as all user passwords	
	The medical system will be supplied with : Technical manual in French or English - electronic and hard copy as well as all technical / access passwords	
	OPERATIONAL FEATURES	
	Brand & Model	
	Provide detailed data sheet	
	Applications for: Abdominal surgery, Thoracic surgery, Neurosurgery, Gynecology, ENT surgery	
	Digital power display	
	Adjustable power output up to 400 Watts	
	Intuitive power control with different levels and mode selection from the main panel	
	Connectors for extension cables must be protected against water ingress IPX 4	
	Four modes: cut/coagmonopolar and cut/coag bipolar	
	Neutral plate monitoring system for continuity and patient contact control	
	Microprocessor-controlled, with self-test and automatic current monitoring	
	Acoustic and visual indications or indicators of functions, alarms and errors	
	Presetted Cut and coagulation programs;	
	Manual and foot pedal activation	
	Automatic cut-off of the delivered power in the event of a fault	
	Minimum of 4 sound volume levels.	
	Alarm in the event of scalpel overheating	
	Capacity to connect two independent pedals	
	Capacity to select between pedal or hand button operation	
	Self-test on generator power-up	
	Monopolar cut with at least 4 levels of adjustable hemostasis:	
	Adjustable hemostasis levels:	
	Max pure cut mode up to 400 Watts	
	3 mixed cut modes with different hemostasis levels up to 180 Watts.	
	Endoscopic cutting mode for polypectomies	
	Monopolar cutting mode for underwater Urology/Hysteroscopy/ Hydro cut	
	Monopolar coagulation :	

	Soft coagulation mode	
	Forced coagulation mode with maximum power	
	Spray mode	
	Hybrid mode	
	Bipolar :	
	Bipolar underwater cutting / Hydro cut with 4 adjustable hemostasis levels and automatic power adjustment according to tissue type.	
	Bipolar coagulation, maximum power 120 Watts with delayed AutoStart option	
	INCLUDED ACCESSORIES AND CONSUMABLES	
	Supply of complete overhaul / preventive maintenance kit for the warranty year	
	Dedicated genuine 4-wheel antistatic cart with brakes and space for accessories (shelf/drawer).	
	Qty 1: dual-control pedal	
	Qty 2: boxes for sterilizing the accessories	
	Connexion Adaptor of universal single-use scalpel cables if applicable	
	Connexion Adaptor of universal multiple-use scalpel cables if applicable	
	Qty 2: reusable cables for single-use neutral plate,	
	Qty 2: Multiple-use neutral plate	
	Qty 10: single-use neutral plates, incl. cable	
	Qty 2: multiple-use monopolar handles with cable	
	Qty 4: multiple-use monopolar spatula electrodes	
	Qty 1: multi-use bipolar cable,	
	Qty 2: multi-purpose bipolar forceps: (1 bayonet type with straight tip; 1 bayonet type with curved tip)	
	ANCILLARY SERVICES INCLUDED	
	On-site delivery, installation , See Associated Services	
	Testing & Commissioning, See Associated Services	
	1-year preventive maintenance, repairs and technical assistance during the warranty year, See associated Services	
	Training of medical staff, See Associated Services	
	Training of technical personnel, See Associated Services	
	The images below are intended solely as a guiding support and should be considered as purely indicative and not restrictive of the expected item characteristics:	
		
		

Item 7. STATION OF 10 ELECTRIC SYRINGE PUMPS


Item No	UNOPS minimum technical requirements	Quantity
7. STATION OF 10 ELECTRIC SYRINGE PUMPS	Infusion pumps system organized vertically and linearly; installed on a modular column enabling functional assembly of all infusion lines.	16
	Requirements: Electrical, Electromagnetic, Dimensions, documentation...	
	Provide a Regulatory approval and marketing authorization (FDA, CE); CE Certification as per MDR 745/2017 or MDD93/42	
	Power supply requirements: 230VAC +/- 10% , 50Hz single-phase	
	Internal protection against overvoltage and overcurrent.	
	Rechargeable batteries with autonomy of at least 2 hours	
	All system components must have FRENCH or ENGLISH as interface language	
	The medical system will be supplied with : User manual in French or English- electronic and hard copy as well as all user passwords	
	The medical system will be supplied with : Technical manual in French or English - electronic and hard copy as well as all technical / access passwords	
	OPERATIONAL FEATURES	
	Modular infusion column consisting of :	
	- Docking Station for 10 single-channel syringe pumps (1 docking station of 10 positions)	
	- 10 single-channel syringe pumps	
	Brand & Model	
	Provide detailed data sheets	
	1 - Syringe pumps used for intravenous anaesthesia with concentration target (IVAC) ; Target Controlled Infusion (TCI) and Total Intravenous Venous Anesthesia (TIVA).	
	LCD screen	
	Flow rate range 0.1 - 1200 ml/h minimum (in 0.1 ml/h increments).	
	Flow rate accuracy +/- 2%.	
	Syringe volumes: 5, 10, 20, 30, 50, 60 CC	
	Syringe type: automatic recognition of syringe type and capacity	
	Programming modes :	
	Without drug name: infusion without drug name display	
	With drug names: infusion with display of drug names used	
	TIVA mode or equivalent : Total intravenous anesthesia; secure intravenous administration with drug library	
	AIVOC mode or equivalent : Concentration Targeted Intravenous Anesthesia; mode includes pharmacokinetic models	
	Drug libraries: minimum 100 storable drugs	
	Infusion mode :	
	ml/h	
	Mass flow rate	
	IVAC drugs: includes pharmacokinetic models for Propofol, sufentanil and Remifentanil in TIVA and IVAC modes	
	Dilution in AIVOC:	

	Propofol: 1 and 2%	
	Sufentanil: max. 5 µg/ml	
	Remifentanil: 50 µg /ml max	
	Target concentration :	
	Propofol:0.1 to 15µg/ml	
	Sufentanil: 0.01 to 3ng/ml	
	Remifentanil:0.1 to 20ng/ml	
	Programmable parameters in AIVOC :	
	Programming modes: possibility of plasma target and sites target modes	
	Time to plasma target (in plasma mode): Flash or programmable from 1 to 60min	
	Volume/infused dose Volume: 0.1 - 999 ml	
	Purge function	
	Bolus: manual and programmed	
	Induction Dose or volume/time: 0.1 - 99 units / 00 min 01 - 59 min 59; automatic flow calculation.	
	Programmable pause from 1 min to 24h, increments per minute.	
	Real-time, time-stamped event history	
	History curves: infused volume/dose, pressure/flow, target/concentration	
	Real-time monitoring of occlusion or leak pressure in the infusion line, represented by pictograms or equivalent.	
	Real-time monitoring and display Infusion data	
	Anti-bolus system to prevent over-infusion of drugs / reduce the bolus upon release of occlusion	
	Keypad lock	
	Safety options, Alarm in at least the following cases:	
	-power failure;	
	-low battery	
	-syringe disengagement	
	-Syringe positioning	
	-Infusion control	
	-Pre-alarm and occlusion	
	-Pre-alarm and end-of-infusion	
	- Volume limit pre-alarm	
	-Keypad lock	
	-Flow rate limits	
	2-Docking station	
	A stable mobile original docking station on castors with braking system	
	Suitable docking station of 10 single-channel syringe pumps with their integrated power	
	Integrated IV stand of at least 4 hooks.	
	ADDITIONAL CONSUMABLES AND ACCESSORIES INCLUDED	
	Supply of complete overhaul kit / preventive maintenance for the warranty year	

	Starting kit: 50 syringes of various volumes 50cc, 30cc, 20 cc, 10 cc.	
	ANCILLARY SERVICES INCLUDED	
	On-site delivery, installation , See Associated Services	
	Testing & Commissioning, See Associated Services	
	1-year preventive maintenance, repairs and technical assistance during the warranty year, See associated Services	
	Training of medical staff, See Associated Services	
	Training of technical personnel, See Associated Services	
	The images below are intended solely as a guiding support and should be considered as purely indicative and not restrictive of the expected item characteristics:	
		

Item 8. BLOOD PRODUCTS WARMER

Item No	UNOPS minimum technical requirements	Quantity
8. BLOOD PRODUCTS WARMER	<i>Heating system used for treating (heating and thawing) fresh frozen plasma (FFP), erythrocyte concentrate (EC) and blood derived cryopreserved preparations in general.</i>	7
	REQUIREMENTS: ELECTRICAL, ELECTROMAGNETIC, DIMENSIONS, DOCUMENTATION...	
	Provide a Regulatory approval and marketing authorization (FDA, CE); CE Certification as per MDR 745/2017 or MDD93/42	
	Power supply requirements: 230VAC +/- 10% , 50Hz single-phase	
	Internal protection against overvoltage and overcurrent.	
	All system components must have FRENCH or ENGLISH as interface language	
	The medical system will be supplied with : User manual in French or English- electronic and hard copy as well as all user passwords	
	The medical system will be supplied with : Technical manual in French or English - electronic and hard copy as well as all technical / access passwords	
	OPERATIONAL FEATURES	
	Brand and Model	
	Provide detailed data sheet	
	Dry heat bath used for thawing fresh frozen plasma and/or heating (warming) blood components.	
	Thawing temperature: +37°C.	

	Plasma defrosting surface ensures uniform heat transfer throughout the bag.	
	Tray or design for waste collection in case of damage to the bags and spills.	
	Capacity for 2 to 4 bags.	
	Microprocessed/Microcontrolled.	
	Capacity to ensure blood product homogeneity through agitation or shaking during treatment	
	Visual inspection of blood products possible during processing (transparent lids, etc.) preferred	
	Preset programs for blood, plasma	
	Blood products Treatment data storage	
	Data transfert via USB or WLAN, or LAN ports	
	With control panel that integrates:	
	Digital display/Screen to display temperature values, treatment time or error messages, blood products treatment parameters	
	Temperature and time control.	
	Programmed cycle.	
	Audiovisual alarms:	
	End of thawing cycle.	
	Error conditions.	
	Overtemperature condition.	
	INCLUDED ACCESSORIES AND CONSUMABLES	
	Supply of complete overhaul kit / preventive maintenance kit for the warranty year	
	Supply of all accessories required for proper operation, including bar code reader if applicable	
	ANCILLARY SERVICES INCLUDED	
	On-site delivery, installation , See Associated Services	
	Testing & Commissioning, See Associated Services	
	1-year preventive maintenance, repairs and technical assistance during the warranty year, See associated Services	
	Training of medical staff, See Associated Services	
	Training of technical personnel, See Associated Services	
	The images below are intended solely as a guiding support and should be considered as purely indicative and not restrictive of the expected item characteristics:	
		

Item 9. AIR WARMER

Item No	UNOPS minimum technical requirements	Quantity
9. AIR WARMER	<i>The air warming system is an active warming therapy device that transfers heat to a large area of skin and warms the patient in the operating room and recovery room. This forced-air warming device is intended for the prevention and treatment of hypothermia. to be used in Operating theater and intensive care unit</i>	12
	Requirements: Electrical, Electromagnetic, Dimensions, documentation...	
	Provide a Regulatory approval and marketing authorization (FDA, CE); CE Certification as per MDR 745/2017 or MDD93/42	
	Power supply requirements: 230VAC +/- 10% , 50Hz single-phase	
	Internal protection against overvoltage and overcurrent.	
	All system components must have FRENCH or ENGLISH as interface language	
	The medical system will be supplied with : User manual in French or English- electronic and hard copy as well as all user passwords	
	The medical system will be supplied with : Technical manual in French or English - electronic and hard copy as well as all technical / access passwords	
	OPERATIONAL FEATURES	
	Brand & Model	
	Provide detailed data sheet	
	Mobile equipment, castors with brake or central brake system	
	Thermal protection of the system: safety thermostat	
	Automatic shutdown to prevent overheating	
	Low-pressure technology	
	Uniform distribution of hot air throughout the cover	
	Protection against liquid infiltration	
	Adjustable heating temperature	
	Automatic temperature adjustment	
	Audible and visual temperature alarms (high, low)	
	High air temperature alarm stops the unit	
	Disconnection alarm stops the unit	
	Digital parameter display	
	Real-time display of delivered air temperature.	
	Equipped with HEPA filter	
	Equipped with hour meter	
	Smooth, resistant shell for easy cleaning.	
	Dedicated cart mounted on 5 swivel wheels with brakes.	
	CONSUMABLES AND ACCESSORIES INCLUDED	
	Supply of complete overhaul kit / preventive maintenance kit for the warranty year	
	Qty 10 - complete adult covers	
	Qty 10 - adult upper body covers	
	Qty 10 - adult lower body covers	
	Qty 10 - complete pediatric covers	
	Supply of all minor accessories required for proper operation.	
	ANCILLARY SERVICES INCLUDED	

	On-site delivery, installation , See Associated Services	
	Testing & Commissioning, See Associated Services	
	1-year preventive maintenance, repairs and technical assistance during the warranty year, See associated Services	
	Training of medical staff, See Associated Services	
	Training of technical personnel, See Associated Services	
	The images below are intended solely as a guiding support and should be considered as purely indicative and not restrictive of the expected item characteristics:	
		

H. Delivery requirements and Comparative Data Table

UNOPS Requirements	
Delivery time	Bidder shall deliver the goods 24 weeks after Contract signature.
Delivery place and Incoterms rules	Tunisia DPU (Consignee-wise quantity distribution list) UNOPS and/or the consignee will submit all tax exemption documentation to the selected supplier- The bidder must submit all shipment documents to UNOPS before departure of the shipment from the FCA point.
Consignee details	Ministry of Health in Tunisia
UNOPS Right to vary requirements	At the time the Contract is awarded, UNOPS reserves the right to vary the quantity of the goods and associated services specified above, provided this does not exceed +/- 20, without any change in the unit prices or other terms and conditions of the ITB.

Consignee-wise quantity distribution

Beneficiaries:

Tunis	La Rabta	CCVT	Mobile Intelligent Echocardiography Device	1
Sfax	Hop H Bourguiba	CCVT	Mobile Intelligent Echocardiography Device	1
Sfax	Hop H Bourguiba	REAN MEDICALE	Mobile Intelligent Echocardiography Device	1
Tunis	Hop Charles Nicolle	UROLOGIE/POST OPER	Color Doppler Ultrasound	1
Tunis	Cngmo		Color Doppler Ultrasound	1
Tunis	Hop La Marsa	CHIRURGIE	Intraoperative Ultrasound	1

Tunis	Hop La Marsa	HEPATOASTROENTEROLOGIE	Video-Endoscopy Column	1
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Tunis	Hop La Marsa	HEPATOASTROENTEROLOGIE	Linear Digestive Echoendoscope	1
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Tunis	La Rabta	CCVT	Electro-Surgical Machine	1
Sfax	Hop H Bourguiba	CCVT	Electro-Surgical Machine	1
Sousse	Hop Sahloul	CCVT	Electro-Surgical Machine	1
Tunis	Hop La Marsa	CHIRURGIE	Electro-Surgical Machine	1
Tunis	La Rabta	UROLOGIE	Electro-Surgical Machine	1
Tunis	Hop Charles Nicolle	UROLOGIE	Electro-Surgical Machine	1
Sousse	Hop Sahloul	UROLOGIE	Electro-Surgical Machine	1
Sfax	Hop H Bourguiba	UROLOGIE	Electro-Surgical Machine	1
Monastir	Hop F Bourguiba	UROLOGIE	Electro-Surgical Machine	1

Sousse	Hop Sahloul	CCVT	Station Of 10 Electric Syringe Pumps	2
Sfax	Hop H Bourguiba	CCVT	Station Of 10 Electric Syringe Pumps	2
Sfax	Hop H Bourguiba	REAN MEDICALE	Station Of 10 Electric Syringe Pumps	2
Tunis	La Rabta	ANESTH REAN	Station Of 10 Electric Syringe Pumps	2
Sfax	Hop H Bourguiba	ANESTH REAN	Station Of 10 Electric Syringe Pumps	1
Sfax	Hop H Bourguiba	SAMU	Station Of 10 Electric Syringe Pumps	1
Tunis	Hop Charles Nicolle	ANESTH REAN	Station Of 10 Electric Syringe Pumps	2
Tunis	Hop La Marsa	ANESTH REAN	Station Of 10 Electric Syringe Pumps	2
Monastir	Hop F Bourguiba	ANESTH REAN	Station Of 10 Electric Syringe Pumps	2

Tunis	La Rabta	CCVT	Blood Products Warmer	1
Mahdia	Hop T Sfar	ANESTH REAN	Blood Products Warmer	1
Tunis	Hop La Marsa	ANESTH REAN	Blood Products Warmer	1
Tunis	Hop Charles Nicolle	ANESTH REAN	Blood Products Warmer	1
Sfax	Hop H Bourguiba	ANESTH REAN	Blood Products Warmer	1
Sousse	Hop Sahloul	ANESTH REAN	Blood Products Warmer	1
Monastir	Hop F Bourguiba	ANESTH REAN	Blood Products Warmer	1

Tunis	Hop La Marsa	ANESTH REAN	Air Warmer	2
Tunis	Hop Charles Nicolle	ANESTH REAN	Air Warmer	2
Tunis	La Rabta	ANESTH REAN	Air Warmer	2

Sfax	Hop H Bourguiba	ANESTH REAN	Air Warmer	2
Sousse	Hop Sahloul	ANESTH REAN	Air Warmer	2
Monastir	Hop F Bourguiba	ANESTH REAN	Air Warmer	2

Related services requirements

Service	UNOPS minimum requirements for services	Place where services will be performed	Final completion date(s) of services
1.	Delivery as per Distribution list	Tunisia (As per the distribution list)	Delivery should be made in fully as follows: - The Bidder shall deliver all the equipment no later than 24 weeks after contract signature.
2.	Installation		- The Bidder shall complete the installation for the units no later than 4 weeks after the delivery (28 weeks after the contract signature).
3.	Testing and Commissioning		Should be done at the end of the installation
4.	Preventive Maintenance, Corrective/Repair and technical assistance contract for users, IEC 62353		Must be valid for the warranty period of each item
5.	Training Group 1: Technical Training		Training must be done before installation (Section E: TRAINING REQUIREMENTS)
6.	Training Group 2: Medical users on the use and operation of equipment.		Should be done at the end of each installation (Section E: TRAINING REQUIREMENTS)

I. Additional Inspections and tests

The following inspections and tests shall be performed:

The vendor must have the goods inspected in the manufacturer's works by a competent authority and submit a test certificate and also a guarantee/warranty certificate that the goods conform to written specifications.

UNOPS and/or its beneficiary representatives reserve the rights to conduct visits to the individual manufacturers' production premises to ensure and track the timely completion of their orders as per the defined quantities attributed to each scheduled deliveries. Those visits will be planned and coordinated with the manufacturers and constitute an important quality assurance step.

UNOPS or its representative reserve the rights to inspect and/or test any or all items of the goods to confirm their conformity to the contract, prior to dispatch from the manufacturer's premises. Such inspection and clearance will not prejudice the right of the consignee to inspect and test the goods on receipt at destination.

If the goods fail to meet the laid down specifications, the supplier shall take immediate steps to remedy the deficiency or replace the defective goods to the satisfaction of the purchaser.