REQUEST FOR PROPOSALS
Supply of medical equipment to strengthen the hospital's capacity in the diagnosis and treatment of COVID-19 and other diseases

INTRODUCTION:

The COVID-19 pandemic is currently a global concern with the first case reported in Wuhan (China) on 29 December 2019. By October 2022, the world recorded over 630 million cases of COVID-19, with over 6.5 million deaths. It is still complicated and unpredictable and has re-emerged in some countries. Omicron subvariants BA.4, BA.5, and BA.2 which appear to be more infectious than the original strains have also been reported in most countries.

Since the beginning of 2020, Viet Nam has experienced several COVID-19 outbreaks. By October 2022, Viet Nam had recorded over 11.4 million cases, with over 43,000 deaths. As a consequence of vaccination, COVID-19 has been well controlled, with mild COVID-19 cases and no deaths for many days. However, in August 2022, the pandemic showed signs of re-emergence. Domestically, sub-variants BA.4, BA.5, BA.2.74, and BA.2.12.1 have been recorded; the number of people who have received the 3rd and 4th doses of COVID-19 vaccines, and the COVID-19 vaccine coverage in children are still low in some localities. The number of cases starts to rise again, threatening to overburden the healthcare system.

In order to strengthen the capacity of the healthcare system, especially the system of hospitals, to promptly respond to the COVID-19 pandemic as well as other diseases that may break out in the future, medical facilities at all levels need to be equipped with a number of devices and equipment for diagnosis and treatment.

UNICEF Viet Nam plans to contract with a qualified supplier to supply medical equipment to a national hospital in Viet Nam, improving its capacity for diagnosis and treatment of COVID-19 and other diseases.

I. SCOPE OF WORK & ESTIMATED TIME

1. Scope of work

- The Bidder shall supply, install, and hand over the medical equipment to the relevant departments of the Hospital (according to the list provided).
- The Bidder shall provide a commissioning manual and make a trial run when handing over the medical equipment.
- The Bidder shall provide a complete list of medical equipment. For each type of equipment, it is necessary to specify the manufacturer, origin, brand, model, and serial number (if applicable).
- The Bidder shall provide detailed information on chemicals and be capable of long-term chemical supply for at least 05 years.
- The Bidder shall provide detailed warranty coverage information, a list of service centres, and contact information for any service/maintenance requirements.
- The Bidder shall be responsible for periodic maintenance and failure of the medical equipment during the warranty period.
- The Bidder shall appoint an authorized person to coordinate with relevant officials of the Ministry of Health, the hospital, and UNICEF to implement and complete the works.

2. Estimated handover date:

All medical equipment and accessories shall be handed over to the recipient **by 30 June 2023**.

II. General requirements

1. The Bidder could be an Importer or a Distributor who has an office in Viet Nam.

2. Products and brands: Internationally recognized brands and products with at least 03 (three) years of establishment and business operations in Viet Nam.

3. Product quality:

- Products must be new, with tags intact, and manufactured in 2022 onwards.
- Products meet quality standards ISO 9001 or ISO13485 or equivalent.
- *Priority shall be given to eco-friendly and energy-efficient products.*

4. Origin of the products

- Marketing authorization (MA) license for circulating on the market in Viet Nam
- Certificate of Origin (original or notarized copy)
- Certificate of Quality
- ISO certificate
- Import documentation

5. Warranty (as of the handover date): Minimum 12-month warranty with a Warranty Card and a list of service centres.

6. Installation and user training: The Bidder shall deliver, install, and provide guidance through a trial run for the user's technical proficiency.

7. User Manual: The Bidder shall provide a maintenance and operation manual in Vietnamese (and English (if available)) for each product.

8. Chemicals and spare parts:

- The Bidder shall provide a quotation for spare parts and sell spare parts for at least 05 (five) years from the handover date.
- The Bidder shall provide a quotation for chemicals & consumables, and commit to sell chemicals & consumables for at least 05 (five) years from the handover date.

9. Other requirements:

- 220V/50Hz power supply.
- Operating environment: in accordance with the standards and conditions in the Northern Region of Viet Nam.

III. TECHNICAL SPECIFICATIONS & REQUIREMENTS

A. AUTOMATED IMMUNOASSAY ANALYSER (SYSTEM)

1. Configuration:

- Immunoassay analyser and standard accessories: 01 set
- Standard chemicals for trial run included: 01 set
- Laser printer: 01 pcs
- UPS: 01 set

2. Specifications:

2.1. Operating principle:

- Fully automated electrochemiluminescence immunoassay analyser or equivalent,
- Testing capacity: ≥ 300 tests/hour

2.2. Main machine:

2.2.1. The interface displays the following information:

- Status of the analyser
- Status of analysis module
- Status of the connection to the data manager

2.2.2. Control functions:

- Analyser preparation for daily testing
- Test settings and result verification
- Chemical management for the analyser

- Calibration
- Test quality control

2.2.3. Software functions:

- Display general information: operating status, sample processing status; display differentiated by colour.
- Display reagent information: quantity of chemicals (test) remaining in each chemical container; expiry date, batch number, pack number, location of the chemical container; display differentiated by colour.
- Display sample information: sample location, barcode number, sample type; substandard sample warning; real-time sample processing.
- Calibration and quality control: calibration information of each chemical; quality control information of each chemical container; Levey-Jennings chart; display differentiated by colour.

2.2.4. Error warning:

- Color-coded and audible warning programme,
- Detailed description of the error encountered
- Troubleshooting guide

2.2.5. Storage capacity:

- Store ≥ 12.000 sample data

2.2.6. Sample processing:

- Sample loading capacity: ≥ 300 samples
- Sample output capacity ≥ 300 samples
- Emergency sample loading port
- Identification of sample tubes, sample racks by barcode or equivalent

2.2.7. Reaction chamber:

- Electrochemiluminescence technology or equivalent
- Testing principle: Sandwich, competitive tests
- Reaction volume: ≤ 120 µl
- Speed ≥ 300 tests/hour
- Number of incubation positions: ≥ 90 positions
- Incubation chamber temperature: $37^0C \pm 0.3^0C$
- Response time 01 test: ≤ 27 minutes
- Sample mixing method: vortex-induced vibration

2.2.8. Sample suction:

- Continuous random suction
- Sample type: serum, plasma, cerebrospinal fluid, whole blood
- Sampling with disposable tip
- Sample volumes from ≤ 4 µl to a maximum of ≤ 60 µl
- Liquid level, blood clot, air bubble detection function
- Automatic sample dilution

2.2.9. Management of reagents:

- Reagent chamber temperature ranges from $\leq 5^0C$ to $\geq 10^0C$
- ≥ 45 positions of reagents
- Load chemicals and consumables, and remove empty chemical containers without stopping the machine
- Reagent identification by RFID or equivalent

- Reagent volume for 01 test ≤ 60 µl
- Software to check test number, reagent container
- Reagent cold storage with temperature from ≤ 5^0C to ≥ 10^0C.

2.3. Test list:

- Number of immunological tests: ≥ 100 intensive tests for Alzheimer's disease, anaemia, bone markers, cardiovascular disease, infectious diseases, inflammatory markers, cancers, therapeutic drug monitoring, fertility, thyroid, etc., fully meeting the needs of the laboratory.
- Perform at least the following tests: HBsAg; Anti HCV; HIV duo; Syphilis; HTLV-I/II; CMV-IgG; CMV-IgM; Quantitative HBsAg; Anti-HBc; Anti-HBs; HSV1-IgG; HSV2-IgG; Anti-HBc-IgM; Anti-HBe; HBeAg; CMV-IgM Avidity; Anti-HAV IgM; Anti HAV.
- Other serological tests: EBV-IgG EBNA, EBV- IgG VCA, EBV-IgM.

2.4. Remote diagnostics and connection:

- Remote diagnostics, application updates
- Connection to phones and tablets for monitoring system information, chemical information, and alarm information.

3. Controller:

- Touch screen: ≥ 21 inches
- Licensed Windows software or equivalent
- Mouse, keyboard: 01 set

4. Printer:

- Type: Black and white laser printer
- Print paper size: A4
- Print speed: ≥ 25 ppm
- Paper loading capacity: ≥ 250 pages
- Finished paper capacity: ≥ 150 pages
- Automatic 2-sided printing
- Display: LED

5. UPS

- Capacity: ≥ 6 KVA
- I/O voltage: 220V/50Hz

B. COAGULATION ANALYSER (FULLY AUTOMATED PLATELET AGGREGATION AND COAGULATION ANALYSER)

1. Configuration:

- Main machine with standard accessories: 01 set
- Chemicals for trial run: 01 set

2. Specifications:

2.1. Operating principle:

- Clotting time detection: apply multi-wavelength photometry: optimal wavelength is automatically selected based on sample features (wavelength conversion)
- Platelet aggregation testing: monitor the changes in light absorbance occurring during platelet aggregation in the sample
- Perform ≥ 220 tests/hour

2.2. Main machine:

2.2.1. Capacity:

- PT ≥ 220 tests/hour
- PT & APTT ≥ 210 tests/hour

2.2.2. Minimum test list includes:

- Clotting time testing
- Colorimetry and immunology

2.2.3. Analysis of sample quality, at least ≥ 3 parameters including:

- Sample volumes,
- Haemolysis, Icterus, Lipaemia

2.2.4. Setup modes:

- Dilution factor mode
- Re-running mode
- Reference testing mode
- Security system

2.2.5: Calibration curve: dilution for equipment calibration curve

2.2.6. Quality control: set up a quality-control programme

2.2.7. Sample processing:

- Closed tube sampling function
- Dilution for sample
- Continuous sample loading and withdrawal function
- Capable of running emergency samples

2.2.8. Management of reagents:

- Continuous reagent loading and withdrawal function
- Automatic reagent barcode reader
- Function of reloading reaction vessels & removing waste without interrupting the operation of the system.

2.2.9: Storage capacity:

- On-board storage: ≥ 10.000 samples with response curves

2.3. Minimum test list

- Routine tests: PT, APTT, Fbg, Thrombin Time
- Specialized tests:
  - ✔ Clotting time analysis: PT, APTT, Fbg, Thrombin Time, Coagulation Factors (II, V, VII, X, VIII, IX, XI, XII), Lupus erythematosus (LA1 and LA2), Protein S (PS) Ac), Protein C (PC – cl), Batroxobin Time (BXT), ProC Global PCAT (PCAT), Factor V Leiden (FV Leiden)
  - ✔ Colorimetric analysis: Antithrombin-III (AT – III), Protein C (PC), α2-Plasmin inhibitor (α2 - PI), Plasminogen (Plg), Factor VIII (FVIII), Factor XIII (FXIII), Factor FIX, BC of C1-inhibitor (BC – C1), Heparin (low molecular weight/fragmentation), Apixaban, Rivaroxaban, Edoxaban
  - ✔ Immunoassay: D-dimer, FDP, vWF:Ag
  - ✔ Platelet aggregation assay: vWF:Rco assay, measurement of aggregation with ADP, Epinephrine, Collagen, Arachidonic acid, Ristocetin.

C. HEMATOLOGY ANALYSER

1. Configuration:

- Main machine with standard accessories: 01 set

- Chemicals for trial run: 01 basic set

2. Specifications:

2.1. Operating principle:

- Fluorescent flow cytometry by laser sources (WBC, NRBC, DIFF, RET, IRF)
- Impedance cytometry with hydrodynamic focusing (RBC/PLT channel)
- Haemoglobin measurement by photometric method
- Capable of simultaneously measuring the size, conductivity, and scattering of white blood cells, reticulocytes.

2.2. Analytical capability: Capable of analysing at least 36 parameters, including at least:

- **CBC parameters**: WBC, NRBC#, NRBC%, RBC, HGB, HCT, MCV, MCH, MCHC, RDW-SD, RDW-CV, PLT-I, PDW, MPV, P-LCR, PCT, NEUT#, LYMPH#, MONO#, EOSIN#, BASO#, NEUT%, LYMPH%, MONO%, EOSIN%, BASO%, IG#, IG%, MicroR, MacroR
- **Reticulocyte parameters**: RET#, RET%, IRF, LRF, MFR, HFR, RET-He, RBC-He, Delta-He, HYPO-He, HYPER-He, PLT-O
- WBC parameters: NE, LY, MO, EO, BA, NE#, LY#, MO#, EO#, BA#

2.3. Throughput:

2.3.1. Whole blood:

- CBC+DIFF: 100 samples/hour
- CBC+DIFF+RET: 83 samples/hour

2.3.2. Pre-dilution:

- CBC+DIFF: 90 samples/hour
- CBC+DIFF+RET: 53 samples/hour

2.4. Sample volumes:

- Sample volume: ≤ 165 µl
- Dead volume: ≤ 1 ml

2.5. Measuring range:

- WBC: 0 to 999.99 x 10^3/µL
- RBC: 0 to 99.99 x 10^6/µL
- HGB: 0 to 30 g/dL
- HCT: 0 to 100%
- PLT: 0 to 9999 x 10^3/µL
- NRBC#: 0 to 999.99 x 10^3/µL
- NRBC%: 0 to 9999.9 / 100WBC
- RET%: 0 to 99.99%
- RET#: 0 to 0.9999 x 10^6/µL

2.6. Accuracy:

2.6.1. Whole blood mode:

- WBC ±3% or ±0.20 x 10^3/µL
- RBC ±2% or ±0.03 x 10^6/µL
- HGB ±2% or ±0.2g/dL
- HCT ±3% or ±1.0 HCT
- MCV ±3% or ±2.0fL
- PLT ±5% or ±10 x 10^3/µL (in the RBC/PLT channel)

2.6.2. Pre-diluted mode:

- WBC ±10%

- RBC ±8%
- HGB ±5%
- HCT ±4% or ±2.0HCT
- MCV ±4% or ±3.0fL
- PLT ±10% (in the RBC/PLT channel)

3.6. Sample processing:

- Simultaneous sample loading: ≥ 50 samples
- Automatic re-run setting according to user-defined rules
- Barcode reader: reads at least the following types of barcodes: Codabar, NW7, Code 39, Code 128

3.7. Data Management

- Store analysed sample data: 100,000 results

3.8. Data display:

- Display RBC and Platelet Histograms; DIFF Scattergram.
- Display 2-D charts.
- Capable of connecting to the laboratory information system.

D. BIOCHEMISTRY ANALYSER (SYSTEM)

1. Configuration:

- Biochemistry analyser and set of standard accessories: 01 set
- Sample loader: 01 pcs
- Electrolytes analyser: 01 set
- Sodium, potassium, chloride and reference electrodes: 01 set
- A controller with a touchscreen and PC: 01 set
- Chemicals for trial run: 01 set
- UPS: 01 set
- Laser printer: 01 pcs

2. Specifications:

2.1. Operating principle:

- Fully automated biochemistry analysis and spontaneous access; photometry and potentiometry
- Methods of minimum measurement including Endpoint, kinetic, fixed point and indirect electrolytes
- Methods of minimum analysis including Colorimetry, turbidimetric immunoassay, latex agglutination, red blood cells break-down reaction and indirect electrolytes
- The system able to use standard chemicals and QC from other brands

2.2. Main machine:

2.2.1. Throughput: Perform ≥ 1000 tests/hour, including electrolyte tests

- The number of tests set on the machine: ≥ 120 tests
- The number of tests performed simultaneously: ≥ 60 tests
- Function of automatic washing system for cuvette
- Separate needles for chemicals and samples
- Capable of analysing at least these types of body fluids (samples) including serum, plasma and urine

2.2.2. Sample tray capacity:

- The number of sample positions: ≥170 positions
- ≥ 2 loading ports of emergency samples: 22 loading positions of emergency samples

2.2.3. Sample volumes:

- Minimum: ≤ 1.0 µl
- Maximum: ≤ 25 µl

2.2.4. Sample quality analysis function:

- Clogging detection
- Detection of levels of liquid, air bubbles, collision and sample dilution
- Automated sample pre-dilution programme with a ratio from 3 to ≥ 100 times.

2.2.5. Chemicals:

- Chemicals chambers: ≥100 positions
- Temperature range to keep chemical chambers cool is from ≤ 40°C to ≥ 120°C

2.2.6. Chemical volumes:

- Minimum: ≤10 µl
- Maximum: ≤250 µl

2.2.7. Total reaction volumes:

- Minimum: ≤120 µl
- Maximum: ≤350 µl

2.2.8. Light source:

- Halogen lamps or equivalent lamps
- Filtering monochromatic light using grating with ≥ 13 monochromatic wavelength
- Spectral band: From ≤ 340 nm to ≥ 800 nm
- Absorbance band from 0 to ≥ 3.0 OD

2.2.9. Samples and chemicals identification: Using a barcode or other equivalent methods

2.2.10. Electrolytes analyser:

- Using ion selective electrode technology or equivalent technologies
- Lifespan of an electrode ≥ 40.000 samples

2.2.11. Data storage capacity: ≥ 100,000 samples and monitoring reactions of ≥ 400.000 tests

3. Personal computer:

- Intel Core i5 processor or a more powerful processor
- Hard drive ≥ 500GB
- RAM ≥ 8GB
- Copyrighted window software or equivalent software set up
- Mouse and keyboard: 01 set

4. Printer:

- Type: Laser black and white printer
- Print paper size: A4
- Print speed: ≥ 25 ppm
- Paper loading capacity: ≥ 250 pages
- Finished paper capacity: ≥ 150 pages
- Automatic 2-sided printing
- Display: LED

5. UPS

- Type: Online
- Capacity: ≥ 6 KVA
- I/O voltage: 220V/ 50Hz

E. AUTOMATED DNA/RNA EXTRACTION MACHINE WITH A CAPACITY OF ≥ 24 TESTS/BATCH

1. Configuration:

An automated nucleic acid extraction system with standard accessories and 01 system including:

- Main machine: 01 system
- Chemicals for installation and training: 01 set
- UPS: 01 set
- User guide manual: 01 set

2. Specifications:

1. General features

- Fully automated sample extraction system
- Meeting CE-IVD standards required for In-vitro diagnostic medical devices or other equivalent standards
- Being compliant with IVD standards under directive 98/79/EC or other equivalent standards
- Reducing interventions from users and differences between results of extraction batches
- Start-up time: ≤ 5 minutes
- Consumables checking time for a batch extraction: ≤ 30 seconds
- Capacity: Extraction time ≤ 75 minutes for a batch of 24 samples,
- Capable of quick extraction process: ≥ 8 samples within ≤ 30 minutes
- A kit set could be used for ≥ 10 different types of samples.
- Extraction principle: Using magnetic bead extraction technology or equivalent technologies
- Unopened kits storage: from ≥ 10°C to ≤ 30°C
- For extraction of Genomic DNA, cell-free DNA, nucleic acid and viral RNA
- Extraction of ≤ 4.5 mL plasma
- Pre-configured and pre-optimized extraction processes for special samples
- Types of extraction samples: whole blood, serum, plasma, fresh frozen tissue, cultured cells, urine, swabbed samples, saliva, cerebrospinal fluid (CSF), bronchoalveolar lavage samples (BAL) and stool
- Input sample volume: from ≤ 250 µL to ≥ 3.5 mL
- Extraction volume: from ≤ 55 µl to ≥ 190 µL

2. Hardware

- A transducer with ≥ 8 drainage channels
- 3 areas of simultaneous samples processing
- An area for extraction liquid cooling
- An available UV lamp on the machine for barcode scanning
- Function of primary sampling tube processing
- Function of post-extraction processing
- An available integrated touch screen on the machine
- An available handheld barcode reader
- An area for extraction liquid cooling to prevent decomposition and evaporation
- Contamination prevention mechanism: Using UV lamp and smart pipette operation
- Detection of liquid levels

3. Software

- Continuous data management by LIS (laboratory information system) connection
- Function of performing pipette-accuracy tests

- Data storage
- USB connection ports with LAN 10/100/1000 Base T, LAN 10/100 Base or more
- Process monitoring according to standards of Title 21 CFR part 11 (part B), Audit trail, follow-up and user guides.
- Data retrieval in *.Xml format, input sample files in csv (*.txt) format or other equivalent formats

4. UPS

- Type: Online
- Capacity: ≥ 3 KVA
- I/O voltage: 220V/50Hz

IV. TECHNICAL PROPOSAL

Add/Attach the following documents to the Technical Proposal:

1. Business Registration Certificate;
2. The financial statements for the last two years (2020-2021) in English with notarization and in Vietnamese (with signature and seal);
3. Supplier profile form (**attached to Annex 3**);
4. Authorization letter/ confirmation letter from the manufacturer;
5. Certificates of work experience with UN agencies or similar clients/ contracts (if any).
6. Related certificates/brochures/data outlining the general requirements in part III for offered machines.
7. The technical proposal shall succinctly outline how the supplier implements and manages the project to meet the estimated delivery date (details of offered machines, project personnel and shipping methods).
8. A Vendor Compliance Matrix (**Annex 1**) for the supplier to fill and sign.
9. Photoss and documents (in Vietnamese) of proposed medical equipment.

V. FINANCIAL PROPOSAL

1. The quotation shall be in Vietnamese Dong (VND) **excluding any taxes as UNICEF is a tax-exempt organization.**
2. Unit price for each equipment includes all the services mentioned in the section "Scope of work" with the "Chemicals and spare parts" for that equipment offered separately (**Annex 5-Quotation Form**)
3. The technical proposal and financial proposal must be submitted separately.

VI. EVALUATION PROCESS AND METHODS

Both the Technical proposal and Financial proposal must **have letterheads, signatures, positions and seals of the Bidder and be saved in pdf format.**

Proposal submission deadline: 24:00hrs, 20 March 2023, Ha Noi time.

Documents submitted after the above deadline shall be rejected.

Proposal evaluation shall be based on the following criteria:

1. Technical evaluation criteria (60 points maximum)

Criteria		Point
1	Meet all the general requirements	15

2	Meet all the configuration specifications	10
3	Meet all the technical criteria	20
4	Delivery time	15
	Total	**60**

2. Financial evaluation criteria (40 points maximum)

Criteria		**Point**
1	Good quality with a favourable price	25
2	All essential accessories and shipping costs are included	10
3	Additional incentives for the user	5
	Total	**40**

Technical quality shall be preferred over price for Proposal evaluation. The maximum point for technical and financial criteria is 60 and 40 respectively, and the total maximum point is 100. Only bidders with a technical proposal getting at least 50 points shall be evaluated for their financial proposal.

The proposal with the highest point from adding points of the technical proposal and the financial proposal shall be the most cost-effective one and be recommended for contract award.

VII. TERMS OF PAYMENT

- The payment shall be divided into **three instalments**:
  - First payment: Advance of 5% of the total contract value after signing the contract, upon receipt of the valid invoice and bank guarantee (**Annex 2-Bank Guarantee**);
  - Second payment: 50% of the total contract value within 30 days upon receipt of the valid invoice and completion of the delivery of three out of five equipment with goods receipt signed and sealed by the Hospital;
  - Third payment: 45% of the total contract value within 30 days upon receipt of the valid invoice and completion of the delivery of the rest two equipment with goods receipt signed and sealed by the Hospital;
- The supplier must present **a Bank Guarantee** to receive the advance of 5% of the total contract value.
- UNICEF shall reserve the right to withhold all or part of the payment amount if the performance is not satisfied, or if the equipment is incomplete or delivered, or if the supplier fails to meet deadlines.

VIII. PROJECT MANAGEMENT

The Head of Child Survival, Development and Environment (CSDE) shall be responsible for overall management; Maternal and child health specialists and the COVID-19 immunization coordinators shall be responsible for daily management.

IX. LIST OF ANNEXES ATTACHED TO THE BIDDING DOCUMENTS

ANNEX 1: Vendor Compliance Matrix
ANNEX 2: Bank Guarantee
ANNEX 3: Supplier Profile Form
ANNEX 4: General Terms and Conditions for Contract (Goods)
ANNEX 5: Quotation Form

Women-owned companies are encouraged to bid. Preference will be given to equally technically qualified women-owned companies

ANNEX 1: VENDOR COMPLIANCE MATRIX

Suppliers are required to describe their ability to meet the requirements mentioned in Section III - TECHNICAL SPECIFICATIONS AND REQUIREMENTS of the bidding documents with attached documents including information of section, page number and line number proving it.

NO.	Requirements	Meet all the requirements	Meet part of the requirements	Note
General requirements				
A. Automated immunoassay analyser (system)				
Configuration				
	Immunoassay analyser and standard accessories: 01 set			
	Standard chemicals for trial run included: 01 set			
	Laser printer: 01 pcs			
	UPS: 01 set			
Operating principle				
Main machine				
	The interface displays the following information			
	Control functions			
	Software functions			
	Error warning			
	Storage capacity			
	Sample processing			
	Reaction chamber			
	Sample suction			
	Management of reagents			
	Test list			
	Remote connection			
Controller				
Printer				
UPS				
B. Coagulation analyser (fully automated coagulation and platelet aggregation analyser)				
Configuration				
	Main machine with standard accessories: 01 set			
	Chemicals for trial run: 01 set			
Operating principle				
Main machine				
	Capacity			
	Minimum test list			
	Analysis of sample quality, at least ≥ 3 parameters			
	Set-up modes			
	Calibration curve			
	Quality control			
	Sample processing			
	Management of reagents			
	Storage capacity			

	Minimum test list			
C. Haematology analyser				
Configuration				
	Main machine with standard accessories: 01 set			
	Chemicals for trial run: 01 basic set			
Operating principle				
Main machine				
	Analytical capability			
	Throughput			
	Sample volumes			
	Measuring range			
	Accuracy			
	- Whole blood mode			
	- Pre-diluted mode			
	Sample processing			
	Data management			
	Data display			
D. Biochemistry analyser (System)				
Configuration				
	Biochemistry analyser with standard accessories: 01 set			
	Samples loader: 01 pcs			
	Electrolytes analyser: 01 set			
	Sodium, potassium, chloride and reference electrodes: 01 set			
	A controller with a touchscreen and PC: 01 set			
	Chemicals for trial run: 01 set			
	UPS: 01 set			
	Laser printer: 01 pcs			
Operating principle				
Main machine				
	Throughput			
	Sample tray capacity			
	Sample volumes			
	Sample quality analysis function			
	Chemicals			
	Chemical volume			
	Total reaction volume			
	Light source			
	Samples and chemicals identification			
	Electrolyte analyser			
	Data storage capacity			
Personal computer				
Printer				
UPS				
E. Automated DNA/RNA extraction machine				
Configuration				
	An automated nucleic acid extraction system with standard accessories: 01 system			
	Main machine: 01 system			

	Chemicals for installation and training: 01 set			
	UPS: 01 set			
Operating principle				
Main machine				
	Fully automated sample extraction system			
	Meeting CE-IVD standards required for In-vitro diagnostic medical devices or other equivalent standards			
	Being compliant with IVD standards under directive 98/79/EC or other equivalent requirements			
	For extraction of genomic DNA, cell-free DNA, nucleic acid and viral RNA			
	Start-up time: ≤ 5 minutes			
	Consumables checking time for a batch extraction: ≤ 30 seconds			
	Capacity: Extraction time ≤ 75 minutes for a batch of 24 samples,			
	Capable of quick extraction procedure for ≥ 8 samples within ≤ 30 minutes			
	A kit set could be used for ≥ 10 different types of samples			
	Extraction principle: Using magnetic bead extraction technology or an equivalent technology			
	Unopened kits storage: from ≥ 10°C to ≤ 30°C			
	Extraction of ≤ 4.5 mL plasma			
	Types of extraction samples: whole blood, serum, plasma, fresh frozen tissue, cultured cells, urine, swabbed samples, saliva, cerebrospinal fluid (CSF), bronchoalveolar lavage samples (BAL) and stool			
	Input sample volume: from ≤ 250 µL to ≥ 3.5 mL			
	Extraction volume: from ≤ 55 µl to ≥ 190 µL			
Hardware				
Software				
UPS				

ANNEX 2: BANK GUARANTEE

BANK GUARANTEE

To: _____
_____

This Guarantee is made on [date] by [Name of Bank] whose registered office is at [Address of Bank] (hereinafter referred to as the "Guarantor") to the United Nations Children's Fund (hereinafter referred to as "UNICEF"), with its Headquarters at Three UN Plaza, 44th street New York, NY 10017;

WHEREAS UNICEF and _____ (insert name of Contractor) whose registered office is at _____ (Insert address of Contractor) entered into an Agreement dated _____, Agreement No. _____, for the performance of _____ (insert short description of the services to be performed) (hereinafter referred to as the "Agreement");

WHEREAS under the terms of the Agreement, Contractor has covenanted to obtain a Bank Guarantee in respect of its obligations thereunder in favour of UNICEF;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor up to a total of _____ [amount of guarantee] _____ [in words], such sum being payable, and we undertake to pay you, upon your first written demand 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 for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand. We further agree that no change or addition to or other modification of the terms of the contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and _____ (insert name of Contractor) shall in any way release us from any liability under the guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the date of issue of the Certificate of Substantial Completion.

No change on content or validity of this Bank Guarantee shall be undertaken by the bank without UNICEF permission.

This Guarantee is subject to URDG 758 (except that Article 15(a) is hereby excluded) to the exclusion of any single national legal system.

Any dispute, controversy or claim between the parties arising out of or relating to this Guarantee which cannot be settled amicably shall be settled by arbitration in accordance with the UNCITRAL Arbitration Rules then in force. In light of the privileges and immunities of UNICEF, references in the UNCITRAL Arbitration Rules to the place of arbitration shall connote only the actual location for the arbitral proceedings but shall not mean the "seat" or "juridical seat" or "juridical place" for such

proceeding. The arbitral tribunal shall have no authority to award punitive damages. The decision of the arbitral tribunal shall be final and binding on the parties.

The Guarantor acknowledges that nothing hereunder or in any document entered into in relation hereto shall constitute or be deemed to constitute a waiver, express or implied, of any privileges or immunities enjoyed by UNICEF.

Signature and Seal of the Guarantor_____
Name of Bank _____
Address _____
Date_____