Government eProcurement System

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Tender ID :	2019_CSIR_37523_1
Tender Ref No :	3055/251019/1741/EQPT
Tender Title :	Supply of Live Cell Imaging System with Research Grade Inverted Microscope
Corrigendum Type :	Technical Bid

Corrigendum Document Details

Corr.No.	Corrigendum Title	Corrigendum Description	Published Date	Document Name	Doc Size (in KB)
1	Corrigendum on Amendment to Technical Specifications and Requirements	Live Cell Imaging System with Research Grade Inverted Microscope Corrigendum on Amendment to Technical Specifications and requirements of Chapter 4 of Original tender document on the subject	23-Dec-2019 07:50 PM	3055AmendmetOfSpecificationsOfLiveCellImagingafterPBCon19.12.19.pdf	194.17

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CSIR-CENTRE FOR CELLULAR & MOLECULAR BIOLOGY
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
(COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH)
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(**तेलंगाना**/TELANGANA) **भारत**/India

Tender ID No. 2019_CSIR_37523_1
CCMB Ref. No. 3055/251019/1741/EQPT **Date: 23.12.2019**

Sub.- Amendment of original Tendered Technical Specifications for procurement of "Live Cell Imaging System with Research Grade Inverted Microscope" – reg.

With reference to **Pre-Bid Conference (PBC)** held on **19.12.2019** to finalise the tendered specifications, all bidders are requested to take a **NOTE** of the **CHANGES** in the tendered specifications at **REVISED CHAPTER-4** placed below. **Accordingly , tendered specifications of "Live Cell Imaging System with Research Grade Inverted Microscope" mentioned under CHAPTER- 4 in the original Tender Document gets completely substituted by REVISED CHAPTER- 4** placed below **(Page 2-4)** and bidders in their own interest are advised to carefully go through changes before submitting their ***e-bid.***

There is no change in **other Terms and Conditions** of the original **Tender Document**.

Bidders are advised to submit their e-bids as per original schedule given in the **Tender Document** on the subject which is also **reproduced** below for information-

BID submission Start Date & Time	**24.12.2019 (17.00 Hrs onward)**
BID submission End Date & Time	**08.01.2020 (upto 14.00 Hrs)**
Date & Time for opening of Bids	**09.01.2020 (upto 14.30 Hrs)**

Note: Prescribed BID SECURITY /EMD in original giving CCMB Tender Reference and CPPP Tender ID Reference must reach this office **on or before** BID Submission End Date & Time i.e. **08.01.2020 (upto 14.00 Hrs)** at the address given in Tendered Document, as also reproduced below: –

"Stores & Purchase Officer, CCMB, Habsiguda, Uppal Road, Hyderabad-500007,INDIA".

Sd/-
(Dharmendra Kumar)
Stores & Purchase Officer

Specifications for Live cell imaging System with Research Grade fully motorized inverted Microscope with Digital image capture and analysis software:

1. Mechanically rugged and sturdy Motorised Binocular Inverted Microscope for Bright field, Phase, DIC and Fluorescence application with side ports for cameras.
2. Motorised 3-step light path switching Binocular 100% / side port 100% / Binocular: side port = 50:50 or 80%:20%
3. The system should have left side port for sCMOS camera and a right side/back port/ Trinocular observation head for Color CCD camera or CMOS camera (CMOS camera subject to DEMO)
4. TFT/LCD touch screen/ Tablet integrated to the system (This change is agreed by CCMB Subject to condition that bidder provides demo and same is accepted by CCMB after satisfactory DEMO) capable of controlling all motorized functions of microscope.
5. The microscope should have the necessary components or accessories required for Bright field, phase, DIC and fluorescence applications.
6. Inbuilt Motorised Z focus drive with coarse and fine mechanisms on both sides with 15nm step size or better.
7. The system should have an IR based Laser/LED focus drift control module for maintaining focus during long term time lapse imaging.
8. Motorised Sextuple revolving Objective nose piece with 6 positions with position for DIC slider.
9. In built motorised shutter for fluorescence illumination control.
10. Bright LED transmitted Illumination for Phase and DIC with intensity control through touch panel and imaging software.
11. Intermediate magnification changer 1.5x, 2x.
12. Eye pieces 10x/22 Adjustable
13. Objectives for Bright filed, Phase Contrast, DIC and Fluorescence applications:

    Plan Fluor 4X/5X NA 0.13 or better, Phase

    Plan Fluor 10X NA 0.3 or better Phase

    Long working distance Plan semi apochromat/Plan Fluor 20X / NA 0.40 phase or better

    Long WD Plan Fluor 40X /0.6 correction collar & Phase

    Plan Apo 40X NA 0.95 DIC

    60/63X Plan Apo 1.4 Oil DIC

    60/ 63x plan Apo 1.2 water

    100X Plan Apo 1.4 Oil Phase
14. **Stage:** XY motorized stage with joystick/control knobs for X,Y &Z directions, inserts for on stage CO_2 incubator. The stage incubator should accommodate slides, 24 well plates, 96 well plate, 35 mm dish, 60 mm dish and chambered cover glass for multi well, multipoint live cell imaging applications.

15. Long working distance Motorised universal condenser NA 0.52 or more with 6 positions for bright field, DIC and phase contrast applications. It should have dedicated slots for DIC prisms for each objective.
16. A tiltable/Ergo binocular observation tube with two 10X eyepieces having dioptre adjustment with a minimum 22 FN or better.
17. **Fluorescence Light Source:** Stable long lasting LED/solid state light source with a guaranteed lifetime of minimum 20,000 Hrs. The light source should have independent LED for 365/385/395nm, 430/435/438/445nm, 475/488/490nm, 511/514/525nm, 550/555/561nm, 575/590/594/595nm and 630/635/640nm. The light source should have built in trigger board for fast switching with control card. A remote touch pad to control all the individual lines should be provided. The light source should be controlled by imaging software for fast sequential imaging with a real-time control board that triggers all the lines and the camera in parallel.
18. **Fluorescence Module:** six position or more Motorised filter turret with narrow bandpass notch filters for DAPI, CFP, GFP, YFP, RFP/DsRed, mCherry/Texas Red, Cy5 and polarizer cube for DIC.
19. **Real-time Control module:** Microsecond precise real-time control board should be able to synchronize the camera exposure time with the precise and fast switching of the LED light to avoid bleaching and photo toxicity. The system should have Analog/Digital I/O ports to control the LED light source, camera and third party hardware such as perfusion system based experiments.
20. **Onstage CO_2 Incubator:** Onstage CO_2 incubator to maintain constant temperature with temperature range of 5 deg C to 45 deg C, humidity and CO_2 control. IT should have a touch screen panel to control all the parameters and software to get the data log of all the parameters.
21. **Cameras:**

    i. Back illuminated Scientific CMOS monochrome camera with QE of 95% or better, 2Kx2K resolution with a pixel size of less than 6.45micron, cooling: -20 Deg C or more below ambient temperature. The camera should have built in trigger inputs and frame rate of 40FPS or more @2048x2048, 80 FPS or more @ 2048x1024

1. ii. 2/3-inch Color CCD camera for image capture, 5 mega pixels, 15FPS or more @ 2400x1900, USB 3.0 etc or equivalent color CMOS camera with equivalent specifications (This change is agreed by CCMB Subject to condition that bidder provides demo and same is accepted by CCMB after satisfactory DEMO.)

Both the cameras should be controlled by same software for all applications like image capture, multichannel, tile, time lapse etc...

22. **Software:** The imaging software should have an advance multidimensional acquisition, automated multipoint imaging for different sample adapters, camera control and controlling all function of motorized/coded functions of microscope. time lapse recording functions, Tile Scan, video recording

functions, automated five dimensional imaging, automated multi-channel fluorescence capturing and merging, fluorescence unmixing, co-localization, wide Field real time De-convolution software module and High Dynamic range imaging. The software should also be equipped with 3 D deconvolution, 3d construction volume rendering and co-localisation analysis and measurements tools like Measurements, Region and line measurements , Interactive measurements, Automatic exposure time adjustment, colour correction, automatic background correction, live imaging mode with high frame rates and acquisition mode with high resolution, scale bar, Annotation, export of images to Tiff/JPEG format, brightness, gamma and contrast adjustment, different exposure times etc. The software should have all features essential for high end scientific imaging applications.

23. Latest branded compute with Xenon processor with 32 GB RAM, DVD Writer, 4TB GB or higher HDD, 27 inch LED digital monitor with 1920x1080 full HD, 2 GB Graphic card, PCI-Express x1. Compatible with half size or Low-profile PCIe board. Original Window 10 Operating System (64 Bit), mouse, key board, DVD R/W etc...

Other Important clauses:

- System and accessories should work with 220v @50 HZ.
- Cost should include on site comprehensive warranty for 3 years on the complete system including LED/solid state light source.
- The service, maintenance and spares parts support should be given for a period of 10 years from the date of installation, the response time for attending a call should be within 24 hours by factory trained service engineer based in Hyderabad. A letter of commitment should be given in this regard from principals head office.
- The principals/local agents are responsible for the complete installation, testing and integration of the system.
- Application training should be provided for the users in CCMB for three days.
- Tools necessary for system calibration like bright filed test slides for bright filed, phase contrast applications, molecular probes test slides for Fluorescence applications should be supplied along with the system.
- Latest software upgrades should be provided free of cost for 3 years.
- A Demo of the offered system should be arranged, if required.
- Original literature with complete specifications should be given.
- Publications, users list and references should be provided.
- Criteria for selection of the system would be based on the response to all the above points, suitability and requirements of various research projects of CCMB.

NOTE: **Bidders may also note that in case of any discrepancy pertaining to requirement of Training, Warranty and tendered Technical Specifications mentioned in any other part of Tender Document on the subject, requirement on Training, Warranty and Technical Specifications specifically indicated in this REVISED CHAPTER - 4 shall prevail.**