ANNEXURE - I

TECHNICAL SPECIFICATION OF HIGH THROUGHPUT SINGLE CELL ANALYSIS SYSTEM

Bidder Eligibility Criteria-I

Sl. No	Bidder Eligibility Criteria-I	Complied / Not Complied	Reference Page No.
~~1~~	The bidder/OEM should have supplied at least 3 similar items to IITs, NITs, IISERs, CSIR Labs or other globally reputed R&D organizations in the last 5 years, PO copies or installation certificates along with contact details of end user need to be submitted as the proof of supply. IIT Madras reserves its right to verify the claims submitted by the bidder and the feedback from the previous customers will be part of technical evaluation.		
2	The bidder should provide local service engineer details to attend service related issues		

Technical Specifications II

SL NO	SPECFICATION	Complied / Not Complied	Reference, Page No
1	The system should offer fully automated high-throughput in situ analysis to detect single molecule RNA using circularizable DNA probes with powerful optics for image acquisition, processing and data analysis.		
2	The system should perform automated on-instrument workflow consisting of successive rounds of fluorescent probe hybridization, imaging, and probe removal to generate optical signature for each transcript.		
3	The automation should include integrating sample handling, liquid handling, and wide-field epifluorescence imaging.		
4	The system should offer high plexy and at subcellular resolution across entire tissue sections (12 mm x 24 mm).		
5	The platform should be compatible with both fresh frozen (FF) and formalin-fixed, paraffin-embedded (FFPE) tissues.		
6	The system should allow detection of up to 400 RNA transcripts at subcellular resolution and designed for an increased plexy detection of up to 1,000 analytes simultaneously in the future.		
7	The system should also capable of simultaneous detection of RNA and protein within the same tissue section.		

8	At the end of a run, the tissue morphology on the slide should remain intact enabling the user to perform further analysis, for example, H&E staining, immunostaining, etc., maximizing the insights gained from the sample.		
9	The slides should be have large 12 x 24 mm imageable area per slide to analyse large tissue sections and be able to process up to 2 slides in a single run and three runs per week.		
10	System should be capable of processing of up to 12 sections, each section measuring 10mm x 10mm, per week.		
11	System should be capable of Automated and on-the-fly raw data processing concurrent with the imaging part.		
12	The assay should be compatible with fresh frozen and formalin-fixed, paraffin-embedded tissues samples from human and mouse.		
13	Baseline optical resolution should be 0.2 microns/pixel allowing detection of transcripts in a single image to < 50 nm lateral precision.		
14	System should acquire 3-dimensional spatial information via Z stacking with a 0.75 μm step size across the whole tissue thickness.		
15	Pre-validated off-the-shelf tissue and research gene panels customizable with additional targets, providing faster path to experiments while retaining flexibility to fit specific needs.		
16	There should be panel design portal to enable seamless experience for custom targets.		
17	The system should have onboard analysis capabilities to process image data, localize RNA signals, and perform secondary analysis.		
18	Manufacturer should offer comprehensive and easily accessible 10x Genomics software suited to analyze and interpret acquired data locally or in the Cloud where available.		
19	The output data should show cell-feature matrix, full transcript localization, segmentation boundaries, initial clustering results, and morphology images, and should be ready for off-instrument exploration.		
20	The accompanying software for data visualization should allow immediate interactivity with the on-instrument output, including overlays of transcripts at subcellular resolution, morphology images, segmentation results, and cluster localization.		
21	Data should be fully portable with industry standard file formats, allowing scientists the freedom to use other tools of their choice.		
22	Electrical Requirements: 200-240 VAC, 50-60Hz, Usable Temperature Range: 19-25 ˚C.		

23	The manufacturer support team should provide comprehensive customer support, starting with site preparation, installation and training, followed by sustained support on all aspects of the workflow.		
	Terms and Conditions		
1	The equipment must have a one-year warranty. Quote must include 2 years optional warranty for 2 years (2^{nd} and $3^{rd)}$ and AMC for the 4^{th} and 5^{th} year.		
2	Necessary training and installation to be provided.		

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the Above points with document proof as required. Failing which bidders will be technically disqualified)