



Ministry of Culture  
Government of India



**NATIONAL COUNCIL OF SCIENCE MUSEUMS**

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**NOTICE INVITING E-TENDER**

**for**

**SUPPLY, INSTALLATION, TESTING AND  
COMMISSIONING OF A VIRTUAL  
REALITY (VR) THEATRE WITH THREE  
YEARS ONSITE COMPREHENSIVE  
MAINTENANCE**

**at**

**INDIRA GANDHI SCIENCE COMPLEX  
& PLANETARIUM (IGSC&P), PATNA  
(BIHAR)**

## **Disclaimer & Disclosures:**

National Council of Science Museums (NCSM) has prepared this document to give background information on the captioned job/project to the interested bidders/agencies/contractors. While NCSM has taken due care in preparation of the information contained herein and believe it to be accurate, NCSM or any of its authorities or agencies nor any of their respective officers, employees, agents or advisors give any warranty or make any representations, express or implied as to the completeness or accuracy of the information contained in this document or any information which may be provided in association with it.

The information is not intended to be exhaustive. Interested agencies are required to make their own inquiries and respondents will be required to confirm in writing that they have done so and they do not rely only on the information provided by NCSM in submitting the Tender. The information is provided on the basis that it is non-binding on NCSM or any of its authorities or agencies or any of their respective officers, employees, agents or advisors.

NCSM reserves the right not to proceed with the Project or to change the configuration of the Project, to alter the time table reflected in this document or to change the process or procedure to be applied. It also reserves the right to decline to discuss the matter further with any bidder submitting the Tenders.

No contractual obligation on behalf of NCSM, whatsoever, shall arise from this tender unless & until a formal contract is signed and executed by duly authorized Officers of NCSM and the bidder in due course after invitation of tenders.

NCSM may modify any / all of the terms of this tender process giving due notification through the NCSM's website: <https://ncsm.gov.in>.

NCSM will not be liable for any costs incurred by the Bidders in the preparation of the tender & its presentation. The preparation of Bidder's proposal will be made without obligation by NCSM to acquire any of the items included in the Bidder's product, or to select any Bidder's proposal, or to discuss the reasons why a particular Bidder's proposal is accepted or rejected.

All information included by the bidders in their proposal will be treated in strict confidence.

National Council of Science Museums  
(Ministry of Culture, Govt. of India)  
33, Block – GN, Sector – V, Bidhan Nagar - 700091

**NOTICE INVITING E-TENDER**

**TENDER No. I-18012/7/24(197)**

On-line Digitally signed e-tenders under Two Bid System are invited from competent Company/Firm/Agency/Consortium, who satisfy the eligibility criteria enumerated in the Tender Documents for CONCEPT, DESIGN, DEVELOPMENT, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF A VR THEATRE WITH THREE YEARS ONSITE COMPREHENSIVE MAINTENANCE FOR Indira Gandhi Science Complex & Planetarium, Patna , Bihar as per the **Scope of Work at Annexure – D and the General Terms & Conditions etc. stipulated below.**

Agencies having proven experience and capability of executing the order in the targeted time may download the Tender Papers from Central Public Procurement Portal (CPPP): <http://eprocure.gov.in/eprocure/app> or from NCSM website <https://ncsm.gov.in> as per the following schedule:

1	Bid Document Published Date	20.09.2024
2	Bid document download start date	20.09.2024
3	Pre-bid queries/clarifications start date	20.09.2024
5	Last Date of submission of Pre-Bid Queries / clarifications (No later queries shall be entertained)	<u>28.09.2024</u> , 16:00 hrs IST only at the following email id: <a href="mailto:spo@ncsm.gov.in">spo@ncsm.gov.in</a> .
6	Date, time and place of Pre-Bid meeting  Pre-Bid meeting will be held on hybrid mode. However, If any Agency want to attend the meeting physically, they can attend the meeting at NCSM office on the stipulated date and time.  The bidder who will submit the pre-bid clarification through email shall get the intimation from NCSM to attend the pre-bid meeting online. Bidders interested to attend the meeting online should send their email address.	Date : 03.10.2024 Time : 11.30 a.m. onwards Place : National Council of Science Museums (NCSM), 33, Block GN, Sector V, Slat Lake, Bidhan Nagar, Kolkata – 700091.  (Link for Pre-Bid meeting is mentioned below.)
7	Bid Submission Start Date	08.10.2024
8	Bid Submission End Date	15.10.2024
9	Technical (Techno-commercial) Bid Opening	16.10.2024
10	Date and Place of Technical Presentation	To be notified later

11	Financial Bid Opening Date	To be notified later
12	Technical Presentation (of those selected)**	To be notified later
13	Estimated Cost of Work (without GST)	200 Lakhs (This estimate is only for SITC with 3 years Comprehensive AMC)
14	Earnest Money Deposit @2.5% of estimate	Rs. 5.00 Lakhs (Rupees five lakhs only).
15	Period of Completion of Work	180 days
<p>Link for Pre-Bid Meeting: -</p> <p>Topic: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF A VIRTUAL REALITY (VR) THEATRE WITH THREE YEARS ONSITE COMPREHENSIVE MAINTENANCE at INDIRA GANDHI SCIENCE COMPLEX AND PLANETARIUM (IGSC AND P), PATNA Time: Oct 3, 2024 11:30 AM India</p> <p>Join Zoom Meeting <a href="https://us06web.zoom.us/j/83203854999?pwd=ffgHYaMJJRXffp2KK7n2iUdhyznEuy.1">https://us06web.zoom.us/j/83203854999?pwd=ffgHYaMJJRXffp2KK7n2iUdhyznEuy.1</a></p> <p>Meeting ID: 832 0385 4999 Passcode: 501153</p>		

Bidders interested to participate through online video conferencing for pre-bid may send their confirmation to Office of Store & Purchase NCSM through email id [spo@ncsm.gov.in](mailto:spo@ncsm.gov.in) and they need to send their contact details and e-mail id to the above-mentioned e-mail address.

The online bid, both Technical Bid and Financial Bid, should be uploaded by the due date and time as per the above schedule. The responsibility to ensure the same lies with the bidders. Offline tenders shall not be accepted and no request in this regard will be entertained whatsoever. Online Technical Bid will be opened at the first instance in NCSM, Kolkata at 3.00 p.m. on 16.10.2024 for technical evaluation as well as selection of technically acceptable offers.

In the second stage, the Financial Bids of only the selected and techno-commercially acceptable offers / system / equipment will be opened. Decision of the NCSM, regarding selection of eligible and qualified vendors / firms for opening the Financial Bid shall be final and binding on the bidders. NCSM, Kolkata reserves the right to accept or reject any or all tenders in full or part without assigning any reason whatsoever. NCSM is not bound to accept merely the lowest tender but the technical suitability, capability and superiority of the job shall be of prime consideration for selection of the agency.

Tender document can be downloaded from Central Public Procurement Portal (CPPP) website "<http://eprocure.gov.in> / [eprocure/app](http://eprocure.gov.in/eprocure/app)"

Submission of the Bid: This Tender is an e-Tender and bids are to be submitted through CPP Portal (<http://eprocure.gov.in> / [eprocure/app](http://eprocure.gov.in/eprocure/app)) only. Bids submitted in physical forms will be summarily rejected.

Details of EMD, submission of tender, etc. are indicated in the tender document.

The online bid both Technical (Techno-Commercial) Bid and Financial bid duly furnished in Cover -I and Cover-II respectively should be uploaded by the due date and time as per the above schedule. The responsibility to ensure the same lies with the bidders.

NCSM, Kolkata reserves the right to amend / withdraw any of the terms and conditions in the tender documents or to reject any or all bids without giving any notice or assigning any reason. NCSM, Kolkata also reserves the right to accept or reject any or all tenders in full or part without assigning any reason whatsoever. NCSM, Kolkata shall also not be bound to accept merely the lowest tender but the technical suitability, capability and superiority of the concept/ technology interface/system etc. shall be of prime consideration for selection of the appropriate set of concept/ technology interface /system collectively considered as a complete solution.

Controller of Stores & Purchase,  
NCSM, Kolkata

## **General Information and Instructions**

1. The instructions given herein will be strictly binding on the bidders and deviation, if any will make the tender or tenders liable to be considered invalid. Tenders incorporating additional conditions by the bidder are liable for rejection.
2. Bids shall be submitted online only at CPPP website:  
<https://eprocure.gov.in/eprocure/app> Manual bids shall not be accepted.
3. The instructions given in "**Annexure- A**" for "Instruction for Online Bid Submission" should be strictly followed during submission of the Bid.
4. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
5. An agent of foreign OEM, for submitting the offer on behalf of OEM, would be required to produce a copy of their legal bid agreement with their principal as an Indian agent failing which their bid would be disqualified.
6. Bid should be submitted along with the Earnest Money of Rs. 5.0 Lakh (Rupees Four Lakhs only) being 2.5% of the estimated cost of the project by way of crossed Demand Draft / Pay Order on any of the commercial banks or payment online by NEFT / RTGS payable in favour of "National Council of Science Museums", payable at Kolkata (Bank Details of National Council of Science Museums for NEFT/RTGS is given in **Annexure- C**).

Earnest Money deposit in the form of Bank Guarantee /Bond or any other instrument shall not be accepted and shall be rejected straightway.

Earnest Money deposits in respect of such offers which are not accepted will be returned to the bidders within 30 working days from the date on which the final decision is taken about the agency through which tendered work will be carried out or within 2 (two) months from the date of the opening of the tenders, whichever is earlier. No interest will be paid on the Earnest Money deposited with the Council. Earnest Money deposit in respect of the successful bidders will be retained with the NCSM until entire execution of the order as per terms of the tender.

If the successful bidder fails to execute the order strictly as per the Council's specification **Annexure - K (a) and K (b)** in full or part within the stipulated delivery period of the purchase order, the Earnest Money deposit retained with the NCSM shall be forfeited forthwith after cancellation of the concerned order. Exemption of EMD is allowed as per prevailing rules.

7. **Validity of Bids:** The Bids should remain valid for 90 (ninety) days from the date of opening of Financial Bids.

8. **Rejection of Bids:** Canvassing by the Bidder(s) in any form, unsolicited letter and post-tender correction may invoke summary rejection. Conditional tenders will be rejected. Noncompliance of applicable General Information and Instructions will disqualify the Bid.
9. The Bidders should have Digital Signature Certificate (DSC) for filling up the Bids. The person signing the tender documents should be authorized for submitting the online e-tender.
10. The Financial Bid (BOQ) shall be filled in and signed by the authorized signatory online as per proforma “(Annexure – I)” available at Central Public Procurement Portal e-tender system website <http://eprocure.gov.in/eprocure/app>. off line Financial Bid shall not be accepted
11. Tenders must be uploaded on-line in two separate covers - namely Cover – 1 (Technical) and Cover– 2 (Financial) on Central Public Procurement Portal. The contents of Cover shall be as follows:

**Cover- 1 (Technical)**

Sl. No.	Description	Yes	No	Remarks
01.	Technical (Techno-Commercial) BID duly filled-in and signed with official stamp. (As per <b>Annexure-B(b)</b> format)			
02.	Proof of Concept (PoC) document i.e. draft Scheme with Drawing and design of the entire space along with the system as per the scope and specification of tender.			
03.	General Terms & Conditions (as detailed in <b>Annexure - B (a)</b> ) duly signed with official stamp as a token of acceptance			
04.	Annexure G along with copies of documents showing the last 3 years’ financial turnover of the firm.			
05.	Scanned Copy of the current and valid GST return Certificate.			
06.	The ‘Declaration’ duly signed with official stamp (As detailed in <b>Annexure-C</b> )			
07.	Format for Articles of Agreement (As per <b>Annexure-E</b> ) duly signed with official stamp as a token of acceptance.			

08.	Signed and scanned copies of duly filled in consent letters of all the team members (As per <b>Annexure - J</b> )			
09.	Scanned copy of Demand Draft / details of online payment for Earnest Money Deposit of Rs. 5.0 Lakhs (Rupees Five lakhs) being 2.5% of the project cost.			

**Cover-2 (Financial)**

- 1. The Financial Bid (Annexure - I) i.e. Schedule of Price Bid in the form of Attached BOQ Performa shall be duly filled in, digitally signed and uploaded online by the bidder.**
- 2. Cost Breakup (in .pdf) as per Annexure I (a) & Annexure I(b).**
- 3. Breakup of operation charges as per Annexure I (i)**

The Cover-1, i.e. Technical (Techno-commercial) Bid shall be opened by NCSM, Kolkata at the first instance and evaluated by the competent authority. At the second stage, the Cover-2 containing Financial Bid of only techno-commercially acceptable offers shall be opened for further evaluation and ranking before awarding the contract.

*N.B.: The bidders shall consider the prevailing tax rates while quoting the rates. However, in the event of any changes in the statutory taxes and duties, the rates applicable at the time of payment shall be made by the competent authority of the NCSM, Kolkata against submission of supporting documentary evidence.*

The authorities of NCSM, Kolkata who do not bind themselves to accept the lowest tender, reserves the right to reject or accept any or all tenders wholly or partially without assigning any reason whatsoever.



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**NOTICE INVITING E-TENDER**

**TENDER No. I-18012/7/24(197)**

**Title of the Work:**

***SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF A VR THEATRE WITH THREE YEARS ONSITE COMPREHENSIVE MAINTENANCE FOR IGSC&P, Patna , Bihar***

Tenders are Invited under Two Bid System from competent Company / Firm / Agency / Consortium, who satisfy the eligibility criteria enumerated in the document.

**Introduction**

National Council of Science Museums (NCSM), an autonomous society under the Ministry of Culture, Government of India was formed on April 4, 1978. Today, it administers 26 Science Centres/Museums spread all over India. Birla Industrial and Technological Museum (BITM), Kolkata; Nehru Science Centre, Mumbai; Visvesvaraya Industrial and Technological Museum (VITM), Bangalore; National Science Centre, Delhi and NCSM, Kolkata are National level centres of NCSM. All these National Level centres except NCSM is having its Regional and Sub-Regional/District Level Centres called Satellite Units (SUs).

NCSM invites bids for ***SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF A VR THEATRE WITH THREE YEARS ONSITE COMPREHENSIVE MAINTENANCE FOR IGSC&P, Patna, Bihar.***

**Brief note on system requirements and features:**

This Tender outlines the SITC of a cutting-edge Virtual Reality (VR) theater at IGSC&P, Patna, Bihar, designed to enhance the visitor experience and offer an innovative educational platform. The incorporation of a VR theater as an additional facility within the existing Planetarium aims to provide an immersive and engaging environment for patrons to explore and experience space sciences related concepts and discoveries in a captivating way.

The VR facility will consist of a synchronized VR system with **two** distinct modes of operation. **The facility should include 25 VR chairs/seating arrangement with wired/wireless headsets, and one server console with a PC for control and management.** The VR chairs should support the 3DOF (Three Degrees of Freedom) movement, providing an immersive and interactive experience.

## Components

1. **VR chairs/seating arrangement (25 units)**
  - Ergonomically designed seating arrangements/chairs
  - Equipped with wired/wireless headsets.
  - Supports 3DOF controlled movement.
  - High-quality image resolution for an immersive experience.
  - ***This should have capacity to hide all mechanical and IT related equipment (Streaming PC, Motor etc.)***
2. **Server Console (1 unit)**
  - High-performance PC for content management and system control.
  - Central control unit for synchronization and operation modes along with and storage.

### Modes of Operation

1. **Synchronized Playback Mode**
  - **Description:** A single content is played from the server and is synchronized across all 25 VR headsets.
  - **Movement Synchronization:** All headsets will experience the same 3DOF movements in sync with the content being played.
2. **Independent Playback Mode**
  - **Description:** Different content can be selected and played on each VR headset independently from the server.
  - **Individual Movement Synchronization:** Each headset will have its own synchronized 3DOF movement based on the specific content being played.

### Features

1. **High-Quality Visuals**
  - The VR headsets are equipped with 4K-resolution displays to ensure the best image quality and immersive experience.
2. **3DOF Movement**
  - Supports three degrees of freedom (yaw, pitch, and roll) to provide realistic and engaging interactions within the VR environment.
3. **Wired/wireless Headsets**
  - Reliable and consistent performance with wired/wireless connectivity, minimizing latency and ensuring stable operation.
4. **Centralized Control**
  - The server console provides a centralized interface for managing content and controlling the entire VR facility.
  - Ability to switch between different modes of operation seamlessly.
5. **Scalability**
  - The system is designed to be scalable, allowing for the addition of more VR Chairs/ seating arrangement, if required, in the future.
6. **User-Friendly Interface**
  - Intuitive control interfaces for both the master capsule and server console to facilitate easy operation and management.
7. **Robust Synchronization**
  - Advanced synchronization mechanisms to ensure that all headsets and movements are perfectly aligned with the content being played, providing

a cohesive experience.

## Diagrammatic representation



*(Approximate Schematic of the proposed facility)*

**\* In this document, Similar Works refers to the design and development of VR-based theaters (either standalone or server-client based) for venues such as museums, tourist centers, business centers, etc.**

**Joint Venture (JV) Experience: If the experience is attributed to a JV, it will be considered only if the same JV participates in the project.**

**Individual JV Member Participation: If one of the JV members participates individually or with a different partner, the relevant experience will only be counted based on the Memorandum of Understanding (MOU) or deed between the JV partners, which must clearly outline the percentage or scope of work completed by each partner.**

### **Eligibility Criteria for Applying:**

Agencies / production houses that are fulfilling the following conditions will be eligible for submission of E-Tender:

- i. The bidder could be an Individual, Limited Company/Corporation, Proprietary Firm, Partnership Firm/Company etc. Consortium or Joint Venture are allowed to bid for the Works.
- ii. The bidder should have minimum experience of 05 years preceding the proposal due date, in the similar field of works.
- iii. The registered company/firm should have a well-equipped and trained production team, having graphics, VFX Animation Studio etc. (well built-up infrastructure) and in-house VR content development team.

- iv. *Firms/Companies should have an average annual financial turnover of ₹200 lakhs over the last three financial years. To calculate this average turnover, the best three years out of the last five financial years will be considered (2019-2020, 2020-2021, 2021-2022, 2022-2023, and 2023-2024).*
- v. *The Bidder should have the requisite work experience of completing similar projects during the last 5 years preceding the proposal due date as per the details given below:*

**(01) One similar work** of value not less than Rs. 80% of the estimated cost of work.

**or**

**(02) Two similar works** each of value not less than Rs. 60% of estimated cost of work.

**or**

**(03) Three similar works** each of value not less than Rs. 40% of estimated cost of work

- vi. *The bidder should provide documentary proof for the above in the form of a work order / supply order / contract document and completion report/ testimonials for completion.*
- vii. *The Bidder Should Fill up all related Annexures (Specially complete BOQ and Annexure K (a) and K(b) with proposed make and model for each equipment)*
- viii. *The bidder should submit the Proof of concept (PoC) document i.e. draft Scheme with Drawing and design of the entire space along with system, mentioning different possible interactivity.*

**N.B Even though the bidders meet the above qualifying criteria, they will be subject to disqualification if they have:**

- a. *Made misleading or false representation in the forms, statements and attachments submitted in proof of the qualification requirements; and/or*
- b. *Record for poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.*

**Notes:**

1. Techno-Commercial bids of the agencies that fulfill the above pre-qualification criteria shall be opened.
2. The bidder has to upload the compliance letter on its letterhead duly signed by the authorized signature & other supporting documents as asked for in the bid in scanned format. Failing to submit the same or non-compliance/deviation from any bid terms and conditions, eligibility criteria or technical specifications may result in rejection of the bid.

**PROPOSAL EVALUATION / SELECTION CRITERIA**

A three-stage procedure (two bid system) based Selection Evaluation will be adopted in evaluating the proposals

1. **Eligibility Criteria Evaluation:** Any shortcoming of the documents will lead to rejection of the bid and other covers will not be opened.

2. **Thematic/Technical Presentation Evaluation:** The agencies qualifying on the basis of their eligibility criteria will only be called for Thematic/Technical Presentations (may be arranged online) which can be at a very short notice.
3. **Financial Evaluation:** Only the bidders/firms securing the minimum qualifying marks based on Eligibility Criteria Evaluation and Technical/Presentation Evaluation as described in details below will be eligible for their Financial Bid Opening & Financial Evaluation

**The evaluation shall be carried out in accordance of the marking system as detailed below:**

#### **A. Technical Evaluation**

- i) The Evaluation Committee appointed by the Council shall carry out its evaluation applying the evaluation criteria specified in the bid document. Evaluation of the application would be done as per the documents submitted. Bidders/Agencies who are in the trade and are fulfilling the pre-qualification criteria as per the documents required would only be called for thematic presentation which can be at a very short notice of even five days.
- ii) Each responsive proposal shall be attributed a technical score. On the basis of the technical assessment, agencies securing minimum **75 marks out of 100 will be** shortlisted and the financial bids of only the shortlisted agencies will be opened. The date and time of opening of the financial bids will be intimated to the selected/shortlisted agencies through CPP portal.

#### **B. Financial Evaluation**

**In two bid systems eligible technical bidders with lowest financial bid will be considered for awarding the tender.**

*Note: Technical Bids will be evaluated on the basis of documents as detailed above & Presentations to be made by the eligible agencies before the Constituted Committee. The date and time of the presentations (if organized) will be conveyed to the eligible agencies.*

#### **C. Technical cum Creative Evaluation Marks**

The Technical Bids will be evaluated on the basis of the indicated parameters in the table below:

*Evaluation of bids found eligible as per pre-qualification criteria would be undertaken by Technical Evaluation Committee Constituted by the competent authority as per parameters cited below:*

Sl. No.	Parameter	Criteria	Sub Marks	Total Marks	Marks Obtained
01.	<b>Credentials of applicant/ agency:</b> The bidder should have minimum 05 year experience preceding the proposal due date, in the similar work* <b>(Total Max. marks- 10)</b>	5 Years - 6 Marks	6	10	
		More than 5 years upto 10 years – Bonus 2 marks	2		
		More than 10 years – Bonus 2 Marks	2		

Sl. No.	Parameter	Criteria	Sub Marks	Total Marks	Marks Obtained		
02.	<p><b>Team</b> (<i>Experience and Credentials will be taken into account for giving marks</i>). A minimum team of 15 people is required on direct payroll of the bidder company. Different profile must include the following: Project Manager, Content writer for educational film , coder, hardware engineer etc. Provide a list of name / designation / employee Id/ no of years working in the company/ field of specialization / educational qualification / total years of experience</p> <p><b>(Total Max. marks- 10)</b></p>	<p>Having a team &gt;=15 people - 6 marks.</p> <p>Having team &gt;= 30 - 1 marks extra</p> <p>less than 15 ,0 marks.</p>	<p>6</p> <p>1</p> <p>0</p>	10			
		<p>Team members having average work experience of &gt;2 years – 2 marks,</p> <p>More than 2 years – 1 marks extra</p> <p>Less than 2 years – 0 mark</p>	<p>2</p> <p>1</p> <p>0</p>				
03.	<p><b>Financial Soundness:</b> Firms / Companies should have average annual financial turnover of Rs.200.00 lakhs during the last 3 financial years (AY 2022-23, 2021-22, and 2020-21) {of Lead Partner in case of consortium}</p> <p><b>N.B - Exception may be considered only for AY 2021-22 (due to Pandemic)</b></p> <p><b>(Total Max. Marks- 08)</b></p>	<p>Turnover of Rs.200.00 lakhs to 300.00 lakhs – 5 marks</p>	5			08	
		<p>Turnover of Rs.300.00 lakhs to 500.00 lakhs – Bonus 2 marks</p>	2				
		<p>Turnover of more than 500.00 lakhs – Bonus 1 marks</p>	1				
05.	<p>Technical presentation before the Technical Evaluation Committee</p> <p><b>(Total Max Marks- 60)</b></p>	<p>committee will examine</p> <p>Technical architecture design of the overall system- 25 marks</p> <p>Treatment to <b>storyline</b> on any one of theme suggested in the Annexure H (Sample VR content of 90 to 120 seconds duration) - 25 marks</p> <p>Design of space - 10 marks</p>	<p>25</p> <p>25</p> <p>10</p>	60**			

*N.B - All the criteria are to be substantiated with necessary valid documents wherever required.*

**Note:** *Bidders who are awarded zero marks in any of the items from S. No. 1 to 4 will not be qualified for technical presentation (considering eligibility criteria). Bidders must get 75% in the technical for getting eligible for opening the financial bid.*

## **C H E C K L I S T**

Check list of Tender No.: I-18012/7/24(197) for SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF A VR THEATRE WITH THREE YEARS ONSITE COMPREHENSIVE MAINTENANCE FOR IGSC&P, Patna , Bihar

Sl. No.	Description	Yes/No	Page reference
01.	Whether E-Tender uploaded in Two parts (i.e. Technical & Financial) separately. Please note that one set hard copy of original signed bids		
02.	Whether Tender documents are carefully studied & understood.		
03.	Whether Tender documents duly signed and stamped on all pages is scanned and uploaded as Cover-1 of the Tender in Central Public Procurement Portal		
04.	Whether Earnest Money of Rs. 5,00,000.00 (Rupees Five lakhs only) submitted by online / Demand Draft No. .... Dated ..... In case of Demand Draft, Scanned copy of DD uploaded as Cover-1 of the Tender. Please note that the original DD should be couriered /handed over / delivered to NCSM, Kolkata. In case of online payment, UTR No. shall be sent to NCSM before the last date of submission of the tender document.		
05.	Whether Declaration regarding Non-relation, duly signed and stamped, and scanned copy of the same uploaded as Cover-1 of the Tender in central public procurement portal. Annexure – C		
06.	Whether Declaration certifying that there is no extra condition quoted in the Offer Form duly signed and stamped, and scanned copy of the same uploaded as Cover-1 of the Tender in central public procurement portal. Annexure – C		



### **Instructions for Online Bid Submission**

1. The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.
2. More information useful for submitting online bids on the CPP Portal may be obtained at <https://eprocure.gov.in/eprocure/app>

#### **REGISTRATION**

1. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “Online Bidders Enrolment” on the CPP Portal which is free of charge.
2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.) with their profile.
5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC“s to others which may lead to misuse.
6. Bidders may then log-in to the site through the secured log-in by entering their user ID / Password and the password of the DSC / e-Token.

#### **SEARCHING FOR TENDER DOCUMENTS**

1. There are various search options built in the CPP Portal to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords, etc. to search for a tender published on the CPP Portal.
2. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective “My Tenders” folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
2. The bidders should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk,

## **PREPARATION OF BIDS**

1. Bidders should take into account any corrigendum published on CPPP in connection with the tender document before submitting their bids.
2. Please go through the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of sets in which the bid documents have to be submitted, the number of documents - including the names and content of each of the documents that need to be submitted. Any deviations from these may lead to rejection of the bid.
3. Bidders, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF / JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates, etc.) has been provided to the bidders. Bidders can use “My Space” or “Other Important Documents” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for the bid submission process.

## **SUBMISSION OF BIDS**

1. Bidders should log-in to the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidders will be responsible for any delay due to other issues.
2. The bidders have to digitally sign and upload the required bid documents one by one as indicated in the tender document.
3. Bidders have to select the payment option as “offline” to pay the requisite Earnest Money Deposit (EMD) and enter detail of the instrument.
4. Bidders should submit the EMD as per the instructions specified in the tender document. The original instrument should be posted/couriered/given in person to the Tender Processing Section at the above address, latest by the last date of bid submission. The detail of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
5. A standard Price Schedule format (BOQ)(Annexure – I) and cost breakup (Annexure – I(a)) has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other

details (such as name of the bidders). No other cells should be changed. In case no rate value is required to be quoted in any particular cell, that cell may be kept blank, figure "0" (zero) shall not be entered in such cell(s). Once the details have been completed, the bidders should save it and submit it online, without changing the filename. If the BOQ (**Annexure – I**) file is found to be modified by the bidders, the bid will be rejected.

6. The server time (which is displayed on the bidders" dashboard) will be considered as the standard time for referring the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
7. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
8. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
9. Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message and a bid summary will be displayed with the bid number and the date & time of submission of the bid with all other relevant details.
10. The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meeting.

#### **ASSISTANCE TO BIDDERS**

1. Any enquiries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority or the relevant contact person indicated in the tender.
2. Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal helpdesk. The contact number for the helpdesk is 1800 233 7315.

## Annexure – B (a)

### GENERAL TERMS AND CONDITIONS FOR SUBMISSION OF TENDER

For SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF A VR THEATRE WITH THREE YEARS ONSITE COMPREHENSIVE MAINTENANCE FOR IGSC&P, Patna , Bihar the tenderers are required to submit the tender in two covers i.e. Cover-I and Cover – II as per the details given in the point 11 of General Information and Instructions.

1. PRICE: The rates quoted/indicated shall include cost as per the details specified in **Annexure – K (a) and K (b)** “Technical specification and Scope of Work”, in the tender document. The rates of GST and other taxes/levies to be imposed on the quoted rates shall have to be clearly and separately mentioned. Price and rate quoted shall be firm and fixed for the entire period of execution of the work and no escalation of rate on any ground whatsoever shall be allowed. The overall lowest bidder shall be awarded the tender.
2. The bidders shall consider the prevailing tax rates while quoting the rates. However, in the event of any changes in the statutory taxes and duties, the rates applicable at the time of payment shall be made by the competent authority of the NCSM, Kolkata against submission of supporting documentary evidence.
3. The successful tenderer shall submit the following documents **within 07 (seven) days** from the date of placement of Letter of Intent.
  - a. Duplicate copy of Letter of Intent duly signed and stamped as a token of acceptance of the work order.
  - b. Non-judicial stamp paper of appropriate value for preparing the Agreement governing the terms and conditions of the Contract.
  - c. Security Deposit as detailed in Clause No. 12 of General Terms & Conditions.
4. **TIME OF COMPLETION:** Time is the essence of the tender. The entire work of final system interfaces supply shall be completed in a time bound manner. The entire work shall be completed **within 180 (one hundred eighty) days** from the date of placement of Letter of Intent. The tenderer may please note that all the system interfaces shall have to be completed in the same time frame. Any extension required may only be granted by NCSM considering the situation and cause only.
5. For non-compliance of any of the above terms and non-delivery of the tendered item complete in all respects within the above stipulated period, the NCSM shall either cancel the order or impose penalty as detailed in Clause 6 below. NCSM reserves the right to cancel the order and no payment will be made under such conditions. Decision of the NCSM in this regard shall be final and binding on the successful tenderers.
6. **PENALTY CLAUSE:** The successful Tenderer shall strictly observe the time allowed for carrying out the job as detailed in Clause No. 4. The job shall, throughout the stipulated period of the order be proceeded with all the diligence (time being deemed to be the essence of the order) and the successful Tenderer shall pay to the NCSM, an amount equal to 1% of the amount of the order value for every week that the delivery may remain incomplete as per delivery schedule as stipulated in Clause no. 4 (Any extension approved by NCSM will be considered under the schedule over and above the stipulated time

specified), subject to a maximum compensation of 10% of the order value and after that period appropriate action will be taken by the NCSM, as it will deem fit.

7. The NCSM may extend the time of delivery of the tendered job at its discretion on the application of the successful tenderer for such purpose provided that it considers the reasons for such extension as good, sufficient, acceptable and unavoidable.
8. SCOPE OF WORK: As per **Annexure - D**
9. PAYMENT TERMS:
  - i) No advance payment shall be made by the NCSM before starting the work at site. **Upto 60% of the supplied equipment cost can be given after delivery of equipment at site as per the details mentioned in Annexure I (a).** Full and final Payment shall be released after satisfactory completion of the entire job and within 60 (sixty) days from the date of receipt of Tax Invoice duly supported by received challan and satisfactory inspection/work completion certificate issued by the competent authority of the NCSM.
  - ii) Payment shall be released through NEFT/RTGS for which details of bank account shall be mentioned in their bill.
10. COPYRIGHT: The brief story-line and script provided to the bidders for quoting their rates and the finally developed VR content interfaces will be the sole property of National Council of Science Museums. The successful Tenderer under no circumstances will sell, lease, use, lend or donate the VR content interfaces, wholly or partly, to any other client. Also, the images, videos and other material to be used in the VR content interfaces should be copyright free.
11. In case, the successful Tenderer refuses to accept the offer after finalization or does not comply with the Clause No. 4 as per the finalized and accepted terms and conditions, the order shall be cancelled forthwith without any further reference and the EMD will be forfeited.
12. Security Deposit: Technically lowest successful tenderer shall deposit 10% of the total amount of work awarded at NCSM as refundable security deposit in the form of DD / Online transfer after adjusting the EMD already deposited with this NIT, after getting the confirmed order and before the commencement of work. The security deposit shall be refunded to the successful bidder one year after the completion of work.
13. Every effort should be made to complete the work by the successful Tenderer within the specified time schedule. In case the successful tenderer fails to comply with Clause No.4 i.e., the specified time schedule as per the finalized and accepted terms and conditions the NCSM shall have the rights to either impose Penalty Clause or cancel the order and forfeit the EMD. The decision of the NCSM in this regard shall be final and binding on the successful Tenderer.
14. Bad quality of work will not be accepted and if carried out is liable to be rejected and should be rectified by the successful Tenderer at his cost as per specifications **Annexure - K (a) and K (b)** and directions given by the authorized representatives of the NCSM.

The decision of the NCSM, as to items of 21 bad quality and proper rectification, will be final and binding on the successful Tenderers.

15. Any ambiguity in the specification / scope of work (**Annexure – D**) is detected; it shall be promptly brought to the notice of the NCSM for clarifications. The successful tenderer without written approval/permission of the NCSM shall make no deviation from the approved specifications **Annexure – K (a) and K (b)**.
16. The successful Tenderer shall submit necessary trade and other licenses as may be required to carry on the tendered job and shall also be responsible for compliance at his/her own cost of all rules and regulations, enforced from time to time by the appropriate authorities.
17. The successful Tenderer shall not under any circumstances whatsoever transfer wholly or partly the contract/agreement/Purchase Order to any other person(s)/firm/company or assign the agreement or benefits of this agreement to any other party for any reason whatsoever. If found otherwise, the order/ agreement will automatically stand cancelled and the EMD will stand forfeited.
18. The authorities of the NCSM, reserve the right to amend, alter or modify the terms and conditions mentioned above, if necessary, from time to time and also cancel the tender without assigning any reason.
19. Income Tax and/or Work Contract Tax or any other tax as applicable shall be deducted at source, if applicable, from each bill/claim of firm as per prevailing Government rules.
20. Incomplete offers, i.e. offers received without prescribed “**Offer Form**” (BOQ), “**General Terms of Conditions**”, “**Technical Specifications**” duly signed on all pages with official seal may be rejected straightway without reference to the tenderer.
21. Bidders must have a valid TIN/PAN/GST Registration number and attach a documentary proof with the Tender.
22. Bidders shall take care of all statutory obligations as are required under the Contract Labour Regulation Act, etc.
23. The offer shall be valid for a minimum period of 3 months from the date of opening of the tender.
24. The agencies participating in the tender and bidding, may obtain on specific request, details about the outcome of the tender and other related details, if any.
25. **Arbitration** : All disputes and differences between the successful tenderer and the NCSM of any kind, except quality of workmanship and materials, whatever arising out of or in connection with the order on carrying out of the work (whether during the progress of the work or after their completion and whether before or after the determination, abandonment or breach 22 of the terms and conditions of the order) shall be referred to the sole arbitration of a person nominated by the Director General, National Council of Science Museums, whose decision in this regard will be final and binding on both the parties – the successful Tenderer and the NCSM. The provisions of the Arbitration and Conciliation Act 1996 or any statutory modification or re-enactment thereof and of the

rules made there under for the time being in force shall apply to arbitration's proceedings under this Clause.

26. **Force Majeure:** In the event of either party being rendered unable by Force Majeure to perform any obligation required to be performed by them under the contract, the relative obligation of the party affected by such Force Majeure shall be suspended for the period during which such cause lasts. The term "Force Majeure" as employed herein shall mean war, hostilities, revolution, riots, civil commotion, strikes, lockouts, epidemic, explosion, flood, earthquake or because of any law and other proclamation, regulations or ordinance of any government or sub division thereof or because of any act of God or any other cause beyond the control of the concerned party which could not have been foreseen or avoided by the exercise of due diligence and so it becomes impossible to perform, provided notices in writing of any such cases, with necessary evidence to the other party within 72 (seventy-two) hours of the alleged beginning and ending of the cause respectively. If performance under the LoI is suspended by Force Majeure conditions lasting for more than 2 (two) months, either party shall have the option of canceling the LoI, in whole or in part, at its discretion without any liability on its part.

Time for performance of the relative obligation suspended by Force Majeure shall stand extended by the period for which such cause lasts.

**Annexure – B (b)**

National Council of Science Museums  
(Ministry of Culture, Govt. of India)  
33, Block – GN, Sector – V, Bidhan Nagar - 700091

**TENDER No.**

**TECHNICAL (Techno-Commercial) BID**

*Notes: ALL PARTICULARS / INFORMATIONS (CHECKLIST) SHOULD BE GIVEN IN THE FOLLOWING FORMAT WITH COMPLETE DETAILS.*

**TECHNO-CHECKLIST**

<b>Sl. No.</b>	<b>Title Submitted</b>	<b>(Yes / No)</b>
01.	Form – 1: Application Form	
02.	Form – 2: Bidder’s Experience	
03.	Form – 3: PoC including the design of the space and proposed VR system as per given architecture	
04.	Form – 4: Details of key personals/ team members	

I/We hereby declare that the above statements are true. I/We also declare that the decision of NCSM regarding selection of eligible firms for opening of Financial Bid (Part-II) shall be final and binding on me/us.

Date:

Signature of the Tenderer/ Constituent Attorney  
With Official Seal



**FORM – 1**

<b>Sl. No.</b>	<b>Particulars</b>	<b>Details</b>
1.	Name of Bidder	
2.	Back ground details of the Bidder Limited Company / Corporation / Agency / Consortium / JV etc.	
3.	In case of Consortium or JV, Name and Address of the Lead Partner	
4.	Complete Address for communication (Address with pin code, telephone numbers, fax no and emails)	
5.	i. Phone /Mobile Number ii. Email Id	
6.	Legal status of Organization Is it a registered Firm/company? <i>(If a partnership firm, state the name/s and address (es) of your partners. If company, state the names and addresses of Directors, photocopies of the certificate of registration should be attached)</i>	Yes/No
7.	i. PAN Number ii. GST Registration No. iii. Average Financial Turnover of the Firm/ company during last 3 years <b><i>(Please see Annexure – G also)</i></b>	
8.	Brief Description of the Bidder's Activities	Please add extra sheet, if necessary
9.	Number of years' experience in similar works <i>(Attached work orders of earlier works with other government departments/autonomous bodies /PSUS and other)</i>	
10.	Number of VR theater design and developed (standalone or server client based ) for museums, tourist centres or any business centre etc	
11.	Has the Agency/ its sister concern/any director ever been blacklisted/defaulters by any organization? If yes, please provide details thereof	
12.	Bank details of the Tenderer with IFSC and other details (for releasing payment through digital mode)	
13.	Whether agreed to accept Payment Terms as per clause 9 of General Terms & Conditions of the	

	Tender. (Please mention 'Yes' or 'NO')	
14.	Minimum time required to complete the tendered item at IGSC&P, Patna, Bihar	
15.	Whether agreed to complete the work as per scope of work (Annexure-D) positively by 180 days as per clause 4 of the General Terms & Conditions of the Tender (Please mention 'YES' or 'NO')	
16.	Details of enclosed EMD @ 2.5% of estimated amount is Rs 5.0 lakh (Rupees Five lakhs only)	Online Transfer..... UTR No.....  DD No ..... dated ..... drawn on bank.....
17.	Any other relevant information	

**FORM – 2**  
**BIDDER'S EXPERIENCE**

1. Brief description of the Bidder's activities related to development of VR content interfaces (attach separately) in the last five years

<b>Sl. No.</b>	<b>Name of the VR content interface (interactives)</b>	<b>Development Platform</b>	<b>Output format</b>	<b>Organization for which produced</b>	<b>Copy of the work order / documentary proof</b>

2. Agency Experience in similar works in past 5 years (Private/PPP/Joint Venture/Consortium Projects) Agency must submit the work order and completion certificate for the projects

<b>Sl. No.</b>	<b>Name of the Project</b>	<b>Cost of the Order</b>	<b>Name of the Client</b>	<b>Phone of Contact Person of Client</b>	<b>Starting Date of Project</b>	<b>Completion Date of Project</b>	<b>Any other relevant details</b>	<b>Whether work order and completion certificate enclosed</b>

SIGNATURE OF THE Bidder WITH STAMP

**Form – 3**

**TREATMENT AND APPROACH**

**Proof of Concept (PoC) for the proposed space**

**Instructions:** Enclose a detailed design of the proposed space along with VR system mentioning its interconnection between each component and features [*Please see specification of system architecture, scope of work required Annexure – K (a) and K (b) and Annexure – D*]

**Along with the above, bidder need to create a 90 to 120 seconds sample VR content on any one of the theme suggested in Annexure-H.**

SIGNATURE OF THE Bidder WITH STAMP

**Form - 4**

**KEY PERSONNEL FOR THE PROJECTS APPLIED FOR**

1. Name of the Head of the Creative team :
2. Name of the subject expert(s) :
3. Name of the Story Writer(s) :
4. Name of Graphics Developer (s) :
5. Name of the programmer (s) /system designer :
6. Motion graphics, VFX Animation Studio/Member(s) :
7. Render farm and Sound studio (may be in-house) :
8. Hardware engineer :
9. Other personals in creative team :

(Please attach separate sheets in the following format for Sl. no. 1 to 9)

- a. Name of the expert:
- b. Address:
- c. Contact Number:
- d. Educational qualifications:
- e. No. of year of working experience:
- f. Brief background of the Head of the creative team/other experts:

SIGNATURE OF THE Bidder WITH STAMP

National Council of Science Museums  
(Ministry of Culture, Govt. of India)  
33, Block - GN, Sector - V, Bidhan Nagar - 700091

**TENDER No.**

**DECLARATION-I**

This is to certify that I/We have no close relative as an employee of the National Council of Science Museums (close relatives means: Father, Mother, Brother, Sister, Son, Daughter and Spouse) nor any such close relatives are associated with us as proprietor/partner/share holder/ director and like.

Signature of the tenderer  
(With date and Official Seal)

Address:

**DECLARATION-II**

We, do hereby accept the General Terms and Conditions as provided by the NCSM, Kolkata along with tender documents for CONCEPT, DESIGN AND DEVELOPMENT OF 'SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF A VR THEATRE WITH THREE YEARS ONSITE COMPREHENSIVE MAINTENANCE FOR IGSC&P, Patna , Bihar and also undertake to execute the job strictly as per the specifications **Annexure - K (a) and K (b)** of NCSM, Kolkata as provided along with the tender documents. NCSM, Kolkata shall be at liberty to cancel the order in full or in part and forfeit the Earnest Money Deposit or Security Deposit retained with them in the event of failure of any of the declaration made by us.

Signature of the tenderer / Constituted Attorney  
(With date and Official Seal)

**Scope of Work:**

**SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF A VR THEATRE WITH THREE YEARS ONSITE COMPREHENSIVE MAINTENANCE FOR IGSC&P, Patna , Bihar as per the following details:**

Scope of the VR theater with a **seating capacity of 25 visitors** involve several key components as per design, specification provided in **Annexure - L and Annexure - K(a) & K(b)**, to ensure an immersive and seamless experience:

1. **Design and development of the provided space:** The provided space as mentioned in annexure-L is inside an existing facility. Hence the main concern of the civil/partition work is to develop the place keeping the aesthetic of the place intact. The full civil acoustic and other components related to space development falls under the scope of the bidder.
2. **VR Headsets:** High-quality (4K) VR headsets with individual screens for each seat to provide an immersive experience. Opt for models with high resolution, comfortable fit, and reliable tracking capabilities. **No pixilation is visible on white screen.**
3. **Audio System:** Integrated high-fidelity audio systems or headphones for each visitor to complement the visual experience and create an immersive audio environment synchronized with the VR content.
4. **Visual Displays:** A large central screen or projection system for non-VR viewers to follow along with the VR experience being showcased to the visitors.
5. **Computing Server:** Powerful computers or servers to render high-definition and complex VR content in real-time for multiple users simultaneously.
6. **Seating Arrangement/haptic chairs:** Ergonomically designed seating to ensure comfort during extended VR sessions and to accommodate the necessary devices seamlessly. Along with a synchronized motion control from the VR content. The system should have a minimum 3 DOF.
7. **Modes of Operation Synchronized Playback Mode Description:** A single content is played from the server and is synchronized across all 25 VR headsets. Movement Synchronization: All headsets will experience the same 3DOF movements in sync with the content being played. Use Case: Ideal for group demonstrations where all participants view and experience the same content simultaneously.
8. **Independent Playback Mode Description:** Different content can be selected and played on each VR headset independently from the server. Individual Movement Synchronization: Each headset will have its own synchronized 3DOF movement based on the specific content being played. Use Case: Suitable for personalized experiences or when different users need to explore different content

simultaneously.

9. **Network Infrastructure:** High-speed intranet/LAN connectivity among the headset for downloading, updating, and accessing VR content, as well as potential multiplayer experiences. The LAN should be designed such that internet connectivity should be possible to provide from one single point. This may require online support from OEM , in case of maintenance mainly.
10. **Safety Measures:** Emergency stop buttons or safety protocols in place to ensure the well-being of visitors in case of discomfort or any technical issues during VR sessions.
11. **Maintenance and Support:** Regular maintenance schedules for all equipment and dedicated technical support to address any issues promptly and ensure uninterrupted operation **with down time less than 24 hours should be given under AMC.**
12. **Power Supply and Backup:** Reliable power supply with backup **(minimum 40 min)** options to prevent interruptions in case of power fluctuations or outages.

These technical requirements should be carefully considered and integrated into the design and setup of the VR theater to provide a robust and engaging experience for up to 25 visitors simultaneously. Additionally, scalability and future upgrades should be taken into account to adapt to advancements in VR technology and content.

**All copyright free artworks and graphics used in the software are included within the scope of work (Annexure - D). Necessary music and other Foley audio will be used. Any violation in copyright or any other IPR related matter will be the responsibility of the bidder.**



FORMAT FOR ARTICLES OF AGREEMENT

ARTICLES OF AGREEMENT made at  
 .....  
 ..... (Place) this..... day of  
 ..... (Date) (Month & Year) between the  
 .....  
 ..... National Council of Science Museums, (a Society registered under the Societies Registration Act of West Bengal, 1961), hereinafter referred to as the NCSM which expression shall include its successors and assigns on the one part and  
 .....  
 ..... (Name of the successful bidder) trading in the name and style of .....  
 ..... (Name and complete address of the successful bidder) hereinafter referred to as the Agency, which expression shall include his/their respective heirs, executors, administrators and assigns on the other part. WHEREAS the NCSM is desirous of getting the work of ..... done and has caused (Name of the work) Notice Inviting E-tender (Including appendix), drawings, schedule of quantities and specifications describing the work and conditions of contract to be prepared by.....

AND WHEREAS the said NIT (including appendix) drawings as per list attached, specifications and the priced schedule of quantities and conditions of contract have been signed by or on behalf of the parties hereto. AND whereas the Successful bidder has deposited in Bank Draft/Pay Order/ NEFT/RTGS..... (Exact amount in words) the amount being 10% of the ordered value of the e-tender) with National Council of Science Museums as Security Deposit for the due performance of this Agreement as provided in the said conditions.

NOW IT IS HEREBY AGREED AND DECLARED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

1. In consideration of the payments to be made to him as hereinafter provided the successful bidder shall upon and subject to the conditions herein contained execute and complete the work within ..... days/months from the date of issue of letter of intent / Work Order (as defined in the scope of work (Annexure – D) of the NIT) and as per the said drawings and such further detailed drawings as may be furnished to him from time to time and described in the said specifications and the said priced schedule of quantities along with the progress of the building work.
2. National Council of Science Museums shall pay to the successful bidder such sum as shall become payable hereunder at the time and in the manner specified in the said conditions.
3. Time is the essence of this agreement and the successful bidder shall proceed with the work, throughout the stipulated period of this contract, strictly according to the CPM/PERT/BAR CHART attached herewith and forming a part of this agreement. At any stage during

execution, if any work lags behind the target as indicated in the CPM/PERT/BAR CHART for reasons directly attributable to the successful bidder, he shall pay or allow National Council of Science Museums to deduct from any money due to him a liquidated damage as per Penalty Clause 6 of the General Terms and Conditions of contract.

4. This agreement comprises the work above and all subsidiary works connected therewith, even though such works may not be shown on the drawings, or described in the said specifications or the priced Schedule of Quantities.
5. National Council of Science Museums reserves to itself the right of altering the drawings and of adding to or omitting any item of work or of having portions of the same carried out departmentally or otherwise and such alterations or variations shall not vitiate this agreement.
6. The General Terms and Conditions, Scope of Work (Annexure - D), Bill of Quantities etc. that are part of the tender document for this work will form an integral part of this agreement.
7. All disputes and differences of any kind whatever, arising out of or in connection with the contract on the carrying out of works (Whether during the progress of the work or after their completion and whether before or after the determination, abandonment or breach of the 42 contract) shall be referred to arbitration as per Clause 25 of General Terms and Conditions of contract (Annexure - B). In case of any legal dispute, other than the arbitration, the court of jurisdiction shall be at the place written in the first line of this agreement.

The provisions of the Arbitration & Reconciliation Act 1996 or any statutory modification or re-enactment thereof and of the rules made there under for the time being in force shall apply to arbitration proceedings under this clause. In witness whereof the parties have set their respective hands the day and the year and the place hereinabove written.

-----  
**SIGNED, STAMPED AND  
 DELIVERED for Contractor  
 WITH SEAL**

-----  
**SIGNED, STAMPED AND  
 DELIVERED for Council  
 WITH SEAL**

In presence of the following witnesses:  
 (M/s. Planet Infrastructure Management  
 Pvt. Ltd. )

In presence of the following witnesses:  
 (National Council of Science Museums)

Signature, Name & Address of Witnesses

Signature, Name & Address of Witnesses

.....

.....

.....

.....

## Annexure - F

### BANK DETAILS OF NATIONAL COUNCIL OF SCIENCE MUSEUMS

Name of the Account Holder	National Council of Science Museums (NCSM)
Account No.	164201000000491
Bank Name	Indian Overseas Bank
Branch Name and Address	Sector V, Salt Lake, Kolkata GN-34/2, Sector V, Salt Lake, Kolkata - 700091
IFSC Code	IOBAINBBA135
Type of Account Saving Account	SB
Branch Code	1642
GST No. of NCSM	19AAAAN2541C2ZZ

**Annexure - G**

**FORMAT FOR ANNUAL TURNOVER AS PER THE AUDITED ACCOUNTS  
TOWARDS THE QUALIFYING EXPERIENCE (Best Three of five will be considered)**

Sl. No.	Financial Year	Turnover in INR
01.	2023-2024	
02.	2022-2023	
03.	2021-2022	
04.	2020-2021	
05.	2019-2020	

*(In case of Consortium, the Turnover of only lead partner needs to be mentioned)*

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(Signature of Authorised Signatory)

This is to certify that the above information has been examined by us on the basis of relevant documents; books of accounts & other relevant information and the information submitted above is as per record and as per details annexed.

Signature, Address, Seal & Membership No of Chartered  
Accountant.

**Broad themes for development of four VR content (4K) including script creation, animation, live shooting (if required) cinematography and all other technical integration**

**1. Mission to Mars**

**Objective:** To immerse users in the journey to the Planet Mars. Mars surfaces, mars rover movement, the environment etc. to be highlighted. India's Mars mission programme may also be highlighted with some technological milestones and scientific discoveries of ISRO.

**2. International Space Station**

**Objective:** To provide a detailed and interactive experience of life and work aboard the International Space Station, showcasing daily activities, experiments, and the unique environment of space.

**3. Roller Coaster Adventure**

**Objective:** To deliver an exhilarating and realistic roller coaster experience, complete with thrilling drops, twists, and turns, allowing users to feel the excitement and adrenaline of a high-speed ride on earth and from earth to Space.

**4. Journey to Moon or Moon Mission**

**Objective:** To provide an immersive experience of journey to moon in a space craft, landing of space craft on moon. The movement of human being, the spacecraft on the moon surface, peaks and valleys, surface of the moon etc. to be highlighted.

**NB: In case, the bidder wants to suggest any other theme related to Space exploration and sciences, it may be mentioned with brief details and cost in I(b).**

**BILLS OF QUANTITIES (BOQ)****Tendering Authority:** National Council of Science Museums**Name of the Work:** SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF A VR THEATRE WITH THREE YEARS  
ONSITE COMPREHENSIVE MAINTENANCE FOR IGSC&P, Patna , Bihar**Name of the Bidder/bidding firm:**

Price Schedule							
Sl. No.	Item Description	Qty.	Basic Rate in fig.	GST%	Total Amt. without GST	Total Amt. with GST	Total Amount in word
1	SITC of 25 seater VR theater along with <b>THREE</b> years comprehensive warranty as per Specification in Annexure - K (a) & K(b). The breakup of this to be clearly given in Annexure I (a).	1 LOT					
2	Comprehensive AMC for 4th year (order will be given separately by IGSC&P Patna)	1 LOT					
3	Comprehensive AMC for 5th year (order will be given separately by IGSC&P Patna)	1 LOT					
4	4K VR content as per specification in Annexure - H  The breakup of this to be clearly given in Annexure I (b) for four (04) contents.	1 LOT					
TOTAL							

**Annexure I(i)**

<b>Rates for the Operation of the VR Theater for 5 (Five) years:</b> Smooth operation of the theater (10 am to 6 pm) everyday along with helping all 25 visitors wearing headset , headset sanitization and any other day to day work related to operation of the theater (order will be given separately by IGSC&P Patna).							
1	1st year	1 LOT					
2	2nd year	1 LOT					
3	3rd year	1 LOT					
4	4th year	1 LOT					
5	5th year	1 LOT					

**COST BREAKUP**

**Annexure - I(a)**

**Tendering Authority: National Council of Science Museums**

**Name of the Work: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF A VR THEATRE WITH THREE YEARS ONSITE COMPREHENSIVE MAINTENANCE FOR IGSC&P, Patna , Bihar**

**Name of the Bidder/bidding firm: .....**

<b>Price Schedule</b>							
<b>Sl. No.</b>	<b>Item Description</b>	<b>Qty.</b>	<b>Basic Rate in fig.</b>	<b>GST%</b>	<b>Total Amt. without GST</b>	<b>Total Amt. with GST</b>	<b>Total Amount in word</b>
1	VR headset with, Headphones and other accessories as required with VR headset. There will be 10 extra as spare. (25) will be operational. (As per specification in Annexure K(a))	35 Nos.					
2	UPS system (As per specification in Annexure K(a))	1 LOT					
3	UV Cleanbox for VR Headsets for Hygiene (As per specification in Annexure K(a))	1 LOT					
5	Server (Hardware & Software), along with Tab based control and With NAS based storage .(As per specification in Annexure K(a))	1 SET					



6	Backup server (As per specification in Annexure K(a))	1 set					
7	LAN network equipment and power network equipment with required cables, connectors etc.	1 LOT					
8	Consolidated amount for 2 weeks hands on training for staff members of IGSC&P, Patna for running the show	1 LOT					
9	Interior related civil works such as wooden partition, flooring etc. along with the visual design, without disturbing the existing gallery theme. (As per specification in Annexure K(b))	1 Lot					
10	VR Chairs with haptics 3 DOF movement or more (As per specification in Annexure K(a))	25nos					
11	Any other expenses not mentioned above. In case the bidder thinks it's not necessary they may put zero for this column. If bidder puts some amount here, they need to specify the type of expenditure as per annexure M	1 LOT					
12.	Three years mandatory comprehensive warranty for the entire VR system installed at IGSC&P, Patna from the date of commissioning and handover of the system.	1 LOT					
Total							

**Annexure -I(b)**

**Supply of VR Contents (Of 08 to 10 minutes each) as per the broad theme mentioned in Annexure -H.**

Price Schedule							
Sl. No.	VR Content theme	Qty.	Basic Rate in fig.	GST%	Total Amt. without GST	Total Amt. with GST	Total Amount in word
1.	<b>Mission to Mars</b>	1 LOT					
2.	<b>International Space Station</b>	1 LOT					
3.	<b>Roller Coaster Adventure</b>	1 LOT					
4.	<b>Journey to Moon or Moon Mission</b>	1 LOT					
<b>TOTAL</b>							
Optional theme suggested by the bidder related to Space Exploration and Sciences (Rate Only)							
1.							

**NB: In case, the bidder wants to suggest any other theme related to Space exploration and sciences, it may be mentioned with brief details and cost in I(b).**

**Annexure - J**

**FORMAT FOR THE CONSENT LETTER FROM TEAM MEMBERS**

I \_\_\_\_\_, voluntarily agree to participate in the project if awarded the work of SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF A VR THEATRE WITH THREE YEARS ONSITE COMPREHENSIVE MAINTENANCE FOR IGSC&P, Patna , Bihar .

I understand that if I agree to participate now, I cannot withdraw from the project or refuse to work without any consequences of any kind, except under exceptional circumstances.

I understand that I can withdraw from the project, under the justifiable exceptional circumstances, with a minimum of two weeks' notice, only with the approval of the authority of the National Council of Science Museums.

I understand that my participation involves [outline briefly in simple terms what will be your specific work for this project]

I understand that no financial or other benefit, directly or indirectly, will be given to me by Science City for participating in this project.

I understand that in any report on the results of this project my identity will remain anonymous and no credit for this project will be directly attributed to me.

I understand that I will have no claim on the content that I will provide for this project as an expert.

I understand that I am free to contact any of the people involved in the project to seek further clarification and information.

**Signature & Seal (if any) of the Expert  
(Name and Designation of Expert)**

**Signature & Seal of the Bidder**

## Annexure – K (a)

### Details of Equipment with Specification

Item Description	Approve Make	Specification	Quantity	Proposed band and model (to be filled by the bidder)
VR headset with, Headphones and other accessories as required with VR headset	Meta Quest 3 or HTC Vives / Oculus or equivalent	<p>Specifications:</p> <p><b>Headset:</b></p> <ul style="list-style-type: none"> <li>● <b>Display:</b> Dual 1920x1920 pixel OLED panels</li> <li>● <b>Refresh Rate:</b> 90Hz</li> <li>● <b>Field of View:</b> Up to 110 degrees</li> <li>● <b>Processor:</b> Qualcomm Snapdragon XR2</li> <li>● <b>RAM:</b> 12GB</li> <li>● <b>Storage:</b> 128GB</li> <li>● <b>Tracking:</b> Inside-out tracking with cameras</li> <li>● <b>Battery:</b> Removable, hot-swappable</li> <li>● <b>Weight:</b> 625g (with battery) or less</li> </ul> <p><b>OR</b></p> <p>VR headset from a globally reputed OEM has to be given. That should be equivalent or better specification than meta Quest 3. Headsets will be handled by multiple visitors hence proper provision has to be taken for safety of the headset and humans using it.</p>	35Nos	
UPS system	(APC/Liebert/ equivalent)	Online UPS with backup needs to be installed for running the installed System in full capacity for 40 mins.	1 LOT	
UV Cleanbox for 35 VR Headsets for Hygiene	(reputed brand)	The bidder should preferably provide a UV clean box with each chair set to facilitate easy disinfection. If the UV box is provided separately from the chair, there must be an easily detachable provision for the	1 LOT	

		headset and the box should accommodate all the headset at once.		
Server (Hardware & Software), along with Tab based control and With NAS based storage	Dell/HP/ CISCO/ equivalent reputed brand	<p><b>Server:</b> A heavy duty server to run VR content/shows in all 25 sets at once. The server should have provision to house at least upto 30 VR set, considering future requirements. Following server specification is the minimum that need to supply. Make HP/Dell or equivalent reputed OEM.</p> <p>Processor (CPU): Intel® Xeon® Platinum 8280 (2.7 GHz base frequency, up to 4.0 GHz with Intel® TurboBoost Technology, 38.5 MB L3 cache, 28 cores)</p> <p>Graphics card (GPU): NVIDIA® RTX™ A6000 (48 GB GDDR6)</p> <p>Memory (RAM): 64 GB DDR4-2933 ECC SDRAM</p> <p>Storage: Primary Drive: 1 TB NVMe M.2 SSD Secondary Drive: 2TB SATA 6Gb/s 7200 Hard Drive</p> <p>Expansion slots: 2 PCIe x4, 3 PCIe x8, 4 PCIe x16</p> <p>Ports and connectors: Front: 1 headset, 2 USB 3.1 Gen1 (1 charging), 2 USB 3.1 Gen 2 Type-C Rear: 6 USB 3.1 Gen 1, 2 RJ-45 (1 GbE), 1 audio-in, 1 audio-out</p> <p>OR better quality required to run the server programme smoothly.</p> <p><b>NAS with max 32 TB raw, suitable for Data Backup and File Sharing or more</b></p> <p><b>Software:</b> As required to get the required functionality, the software should have easily controllable GUI interfaces. A tab based show control to be provided.</p>	<b>1 LOT</b>	
Backup server	(Dell/HP/ equivalent	<b>Comparable with a primary server such that it can drive the full system in case the primary</b>	<b>1 LOT</b>	

	reputed brand)	<b>server fails.</b> <b>Primary and backup server should be connected in hot swap, so that in case primary server fails, operator can directly run the show from backup server</b>		
LAN network equipment, and power network equipment with required cables and connectors etc.	CISCO	Power cabling for all chairs and devices should be done using PVC casing, with wire diameter calculated to include a 50% safety factor based on current capacity. The cables must be armored for added protection. All cabling should be concealed within the wall or floor paneling.  A LAN/ WiFi network must be set up using a CISCO switch and access point, or an equivalent, to ensure the required speed for smooth content streaming from the server to the headset without any network lag. The LAN setup should utilize CAT6 or higher-grade cabling, connectors, routers, and other components to support CAT6-grade data speeds.	1 LOT	
VR content	Customized 4K	The content with binaural audio and video show centrally controlled from the master / explainer, and also having 360 degree view individually available to each user is required. The expected length may be from <b>8 to 10 minutes</b> . The content has to be backed up by in sync chair movements. Provision for multilingual audio has to be there. Moreover, content has to be narrated in English and Hindi. Only broad topics will be provided by NCSM and bidders need to write story line, curation animation and any other steps related to the development of VR content, with the approval from NCSM at each step.	4 Nos	
VR Chairs with haptics	Custom make	A chair with 3DOF (roll pitch yaw) haptic movement controlled in sync with the VR content should	25 Nos	

movement		be able to withstand a minimum 130 KG load. The chair should be aesthetically good to look like a capsule. Any plastic /leather material to be used has to be of standard quality ensuring comfort.		
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**Annexure – K (b)**

**Details of Interior related civil works such as wooden partition flooring, carpeting etc. with Specification**

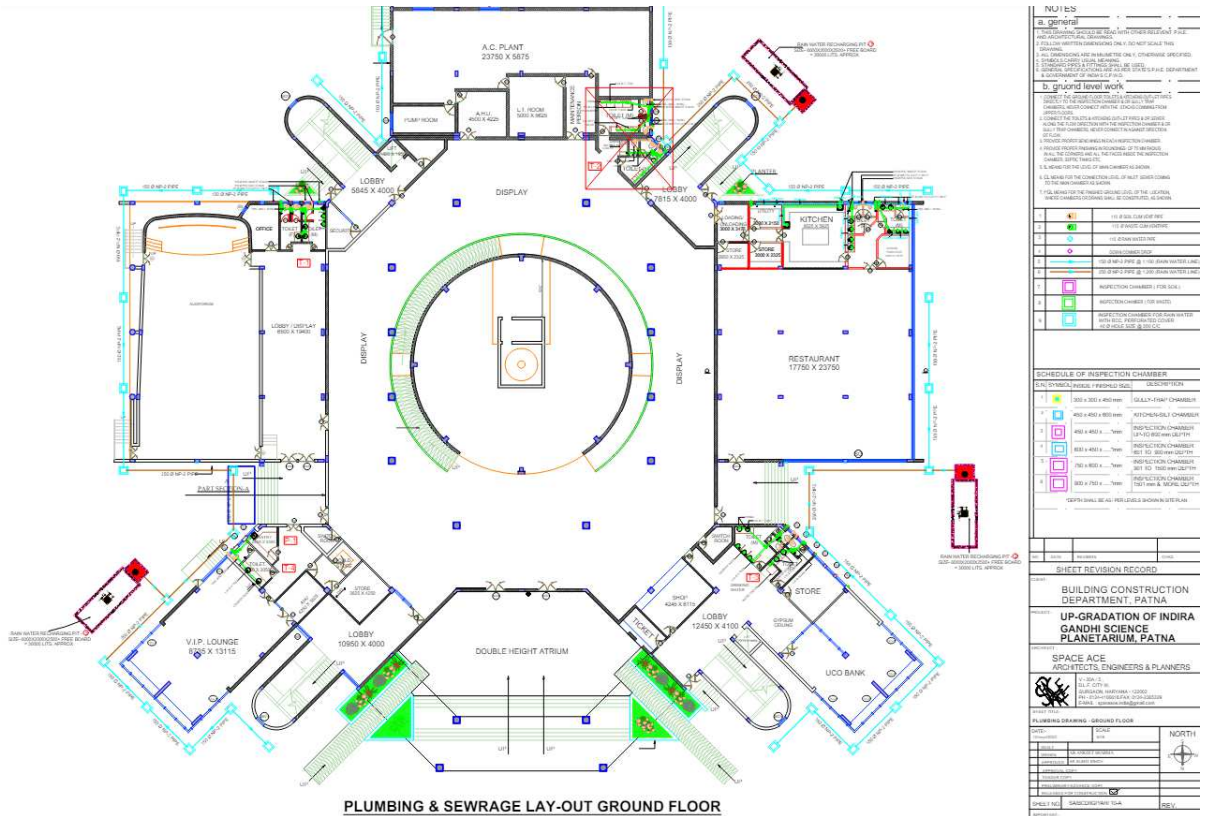
Item Description	Approve Make	Specification	Quantity	Proposed band and model (to be filled by the bidder)
Civil works along with the visual design ,without disturbing the existing gallery theme.	Century / green ply or equivalent product	<p>As per the drawing/ 3D visualization of space provided in <b>Annexure L</b>, Scope for civil partition work:</p> <p>The bidder is required to propose a comprehensive design that includes the floor layout (to conceal wired connections (if any)), interior decoration, and the VR seating arrangement (to hide mechanical and IT equipment used for individual headsets and securing the seating). The design should also cover lighting, and decoration of the inside wall panels, which may feature translights, posters, or other decorative elements. For the front panel only one promotional video needs to be made(projector will be supplied from NCSM) Additionally, all necessary arrangements within the circular VR theater must be addressed.</p> <p>The current circular theater has no partitions, but NCSM will provide a glass covering for the front section, including an entry and exit gate. Since the theater is located within an existing facility, the proposed design for both the exterior and interior must blend seamlessly with the existing gallery. The final design will be subject to NCSM's approval, with modifications suggested if needed.</p>	1 LOT	

**#Note:** Please fill the OEM and brands for each item/ equipment bidder will be using as per their proposed design plan



# Annexure - L

## Drawing and dimension, present photograph of the proposed area



Central Portion of the place will be used for proposed VR theater



Photographs of the central portion as marked in the drawing. The theater will be setup inside the round shaped area located centrally in drawing

**Artistic Visualization of the proposed facility:**



**Other than the front wall projection equipment everything inside the VR theater is under the scope of the bidder**

**(Bidder is expected to visit the place physically before bidding)**



**Annexure - M**

**Details of Cost Breakup Sheet (Annexure - I (a)) item No 11 (only need to be filled, if bidder wants to put some value > zero)**

<b>Sl no</b>	<b>Details of expenditure</b>	<b>Amount in INR</b>	<b>Remarks if any</b>

**(Add rows if needed )**

**Signature of the bidder**