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## Invitation For EOI

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### 1. About IHFC

#### I-Hub Foundation for Robotics (IHFC)

IHFC is the Technology Innovation Hub (TIH) of IIT Delhi incorporated as a Section 8 company, registered under The Companies Act, 2013 having registered office at MZ-122 IIT Room No. Hauz Khas, Delhi, India-110016, established under the mandate of the Govt. of India through the Department of Science and Technology (Ministry of Science and Technology), under its NM-ICPS (National Mission on Interdisciplinary Cyber-Physical Systems) mission for promoting research and development, incubating/promoting individuals/start-ups, entrepreneurs, organizations and corporations individually or in collaboration with faculty and other parties for harnessing the new wave of technological innovation in India.

### 2. About Eoi

IHFC is issuing this online EOI (Expression of Interest) for inviting commercial rate submission of a 32 channel Dry Electrode wireless EEG Headset with integrated EEG amplifier and wireless electronics inbuilt in the EEG headset for setup at IIT Delhi. The device should have following configurations:

- Should be minimum 32 channel light weight, dry electrode wireless EEG amplifier headset for fast and zero-gel recordings headsets which includes 30 fixed channels —10-20 montage + 10 additional on-head channels — plus 2 ExG channels for gathering additional biometric data.
- EEG amplifier and wireless electronics should be integrated into the headset.
- Should have built-in noise rejection and LED impedance indicators for real-time contact quality.
- Should have flexible composite arms for easy movement & excellent contact between sensors and scalp.
- Should be offered with 2 variable ExG leads for user-defined EEG ECG, EMG, and EOG.
- Should have 8 hours of uninterrupted data recording with two AA batteries.
- Features:
  - A/D Resolution: 24-bit
  - Sampling rate: 500Hz
  - Bandwidth: 0-131 Hz with DC coupling.
  - 3-axis accelerometer
  - Wireless Range: 10 meters.
  - Noise: <1.0  $\mu$ V RMS from 1-50 Hz, shorted inputs.
  - Weight: less than 650g

- Fits heads sized 52-62 cm

- Data streaming should be via Bluetooth Low Energy. Should have full access to raw data via real-time streaming API.

- Continuous on-board and on-screen impedance check with real-time monitoring of all channels simultaneous with EEG.

- Should be compatible with LabStreamingLayer, EEGLAB, BCILAB, MATLAB, BCI2000, OpenViBE.

- Should be offered with Windows based Recording Software, should have wizard based workspaces for various research requirements and protocols. Menu structure to guide the user with all crucial steps for setting up the hardware/software filter configuration, selecting the hardware filters on a channel by channel basis.

- Data Recording Software should be able to record and process the data acquired from electrodes and auxiliary sensors with the below features.

- Should be compatible with amplifier to ensure maximum compatibility and a better sampling rate. Open source or universal processing software like Matlab or toolboxes will not be accepted.

- The selection of hardware filters on a channel-by-channel basis should be easy and fast. The acquired data should be displayed in multiple ways and the channel montages (original, bipolar and average) to be made switchable on the fly, to adjust the channel view to the specific experiment needs.

- Should be able to check the impedance value channel by channel and display with a fully selectable colour coding.

- Should be able to perform a complete evoked potential analysis in real-time directly and the segmented/averaged data should be stored together with the raw data.

- Should be compatible to send out the incoming data to the network via the TCP/IP protocol using the Remote Data Access module for real-time data analyses.

- Should be able to do Online Average Overlay-allows you to add a static overlay of a previously recorded average to the average view and thus compare the ongoing wave with a prototypical one.

- Should offer the selection of Default Display Interval i.e to select the length of the time interval to be displayed by default on the computer screen.

- Should offer to select a subset of channels during monitoring.

- Should offer Interface to the active electrode control software, should be able to automatically save the impedance values in the header file of EEG data and should not need a separate file to save them.

- Able to transfer the data to the other Programs like MATLAB and Python, located on the local computer or on computers in the network.

- BCI Applications should have provision for scripting and developing user defined analysis for BCI tools along with Data exporting.

- The data scripting should be enabled where the user can script their own code for special purpose applications along with the export facility to load into any other analysis tools should be available.

1. Participant should provide the latest technology equipment and test software along with complete installation, manuals and extensive training to students to use the equipment.
2. Commercial rates quoted for items should be best in Industry with full terms and conditions including warranty of these items.

### **3. Eligibility:**

This Expression of Interest (EOI) is open for Manufacturers, Retailers, Whole sellers, distributors, who are in the business of supplying 32 channel Dry Electrode wireless EEG Headset with integrated EEG amplifier and wireless electronics in the EEG headset.

### **4. Selection Process:**

The Selection of Proposals shall be done on the basis of IHFC policies, rules, procedures and statutes, and in conformity with the best practices through an objective selection procedure in line with vision of IHFC.

**EOI Opening Date** : 06 June,2023.

**Last date for submission:** 27 June, 2023.

**Extended date for submission:** 25 August, 2023.

Interested parties can submit their technical cum commercial proposal with

*kind attention – VP- Operations - IHFC*

*Sub : Quick 32 r*

..along with (As per Annexure) in the PDF or Excel and email it to [contact@ihfc.co.in](mailto:contact@ihfc.co.in)

Thanks

IHFC Team

5. Annexure