

Date : 20/9/2017

To,

The Advisor cum Director,

MJCET.

Dear Sir;

Sub: Request to provide infrastructure, to setup a Test Bed for IEEE P1451 standard upgradation for harmonization with Internet of Things(IoT)

Institute of Electrical and Electronics Engineers (IEEE) is unparalleled in the field of technical publications through its wide range of Journals and conferences. Another important contribution of IEEE to the technical fraternity is the IEEE standards for interconnectivity and interoperability of products. Conformance to standards simplifies product development, and shortens the time-to-market. The IEEE 802.11 standard, popularly known as the WIFI, is one of the most popular standards that has made a difference in the life of a common man.

With the advent of ubiquitous computing and ease of internet access, the concept of Internet of Things has gained huge relevance in the current technological landscape. The IEEE P1451 standard upgradation for use with Internet of Things aims to address the needs Industry 4.0 compliant Manufacturing, Smart Cities, Smart Buildings, Smart Wearable Things etc.,

The IEEE Standards Association (IEEE-SA) has launched this new standardization project as a global effort with work groups located in US, Europe, China and India. The members of India work group are based out of Hyderabad, Bangalore and Pune. The IEEE Hyderabad Section is playing a prominent role in the India work group with five of their members assigned to Subgroup-3. Mr.Gopalakrishna Kuppa taking a lead role in formalization of roles and responsibilities.

IEEE Hyderabad section is planning to set up an **IoT TEST BED** which will help researchers across the country to contribute to development IEEE P1451 standard upgradation, the attended benefit, is publication of decent quality technical papers (conferences/journals grade) and potential for first filing of Patents (*on the periphery of the domain of this standard*).

This is a time bound project and it is envisaged to roll out the new standard by December 2018. The test bed must be in the functional state within 3 months of development effort starting from October 2017. The test bed will be ready in January 2018 and handle the Verification and Validation processes till the publication Of the standard scheduled by December 2018 the key tasks will be carried out in this test by Post Doctorate researchers, Ph. D scholars, PG students engaged in research in domain of Internet of Things.

The IEEE Hyderabad Section has received tremendous support from Muffakham Jah College of Engineering and Technology in their previous project of building the replica of Sir J.C. Bose experiment at Birla Science Center. Further, the IEEE Student branch of MJCET, mentored by Dr. Kaleem Fatima and Dr. Arifuddin Sohel, is one of the most active branches of IEEE Hyderabad Section. In order to further strengthen the mutual ties between the IEEE Hyderabad Section and MJCET it is proposed to establish the P1451- IoT harmonization TEST BED at the ECE Department of MJCET (Host Institute).

This is a time bound project (15 months) during which all capital investment on equipment will be done by IEEE Hyderabad Section. The host institute (MJCET) is requested to provide space to setup the TEST BED with infrastructural facilities like seating, internet connectivity etc. for this duration and Human resources in the form of faculty and students who can carry out their projects in this area and be custodian of the equipment for the duration of the project. Further, physical access to the setup is to be provided to researchers and professionals across the country or remote access is to be provided through internet, latter being the preferred mode. There are no financial implications/commitments required from the host institute. At the end of the project, the equipment will be evaluated at a notional value and may be purchased by the host institute or sold to any other interested entity. The outcome of this project is high quality research publications and potential patents (on the periphery of this standard domain) to the individuals involved in this project, thus bringing credit and visibility to the host institute. The IEEE Hyderabad Section and Automation component manufactures in India would bear the complete cost of Capital equipment mentioned below (about 3.38 lakhs) and be responsible for setup and commissioning of the equipment.

Sl.NO	Description of Equipment	Unit price	Quantity	Total price
1	Desktop Computers with Linux O.S	22000	2	44000
2	Laptop computer with Linux O.S	30000	1	30000
3	Tablet Computer-iPad	28000	1	28000
4	Android Smart Phone	16000	1	16000
5	Network Capable Application Processor(NCAP) Reference Design HW/SW from E-sensors	40000	1	40000
6	Smart Transducer Interface Module-Intel Microcontroller	8000	5	40000
7	Transducer Electronic Data Sheets(TEDS) Compiler- HRM Software	5000	1	5000
8	Smart Sensors(MEMS)	3000	20	60000
9	Analog Sensor Stimulus apparatus	3000	5	15000
10	Digital Input/ output Driver Boards; switches/Pushbuttons	3000	4	12000
11	DIY Electronic Projects tools and tackles	3000	1	3000
12	Power Supply Rack for A.C/D.C power distribution.	5000	1	5000
13	UPS 1500VA	18000	1	18000
14	Switch Mode Power supply for bulk D.C power	2000	1	2000
15	Lighting Fixtures	1000	1	10000
16	Miscellaneous electronic components	10000	1	10000
		Total		3,38,000

Infrastructural requirements to be provided by Host Institute

1. Space 25ft Length and 20ft breadth
2. Secured entry and exit system with cameras recording infrastructure.
3. Power distribution ,telephone, Wi-fi connection and computer network
4. Uninterrupted power source and Switch Mode Power supplies for powering electronics hardware.
5. Two Lab tables with 3 stools each with bucket seats - adjustable height
6. Appropriate luminaries for the laboratory tables
7. Two office cubicles with executive chairs
8. Water dispenser, coffee/,Tea maker, Cutlery set
9. Storage Cabinets-4nos

On behalf of IEEE Hyderabad section, we request you to consider the proposal of this setup at MJCET. Please feel free to contact the section representative Mr. Gopalakrishna Kuppa for any further details.

Regards

Merugu

Merugu Lakshminarayana, Ph.D
Chair, IEEE Hyderabad Section.



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Head ECE

Pl arrange a meeting with fellow
taking a final decision on this
matter & further take a report
for the Sec. It is agreed
SUT,
Proposed for our Research Center.

1. Prof. Juff
2. Prof. Fahit
3. Dr. Kalan Fatim
4. Rent

23/10

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Mr. Kuppa
Officially.