AGENDA

14th MEETING OF WEARABLE ELECTRONIC DEVICES AND TECHNOLOGIES SECTIONAL COMMITTEE (LITD 33)

Date:	08 November 2024
Time:	11:00 hrs
Chairperson:	Shri Sanjeev Singh, Delhi University
Member Secretary:	Ms Alismita Khag (LITD, BIS)

Virtual:

https://bismanak.webex.com/bismanak/j.php?MTID=m21dc862fa91aa0984bd02d03f548905b
Friday, November 8, 2024 11:00 AM | 1 hour 30 minutes | (UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi
Meeting number: 2510 929 5532
Password: yfRNXMTB658 (93769682 when dialing from a video system)

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ITEM 0 WELCOME ADDRESS

0.1 Welcome by Member Secretary

0.2 Opening Remarks by the Chairperson

ITEM 1 FORMAL CONFIRMATION OF THE MINUTES OF LAST MEETING

1.1 The minutes of the 13th meeting of the committee held on 02 August 2024 were circulated. No comments have been received on the minutes.

The committee may confirm the minutes.

ITEM 2 SCOPE AND COMPOSITION OF LITD 33

2.1 **Scope:** Standardization in the field of (i) wearable electronic devices and technologies which include patchable materials and devices, implantable materials and devices, ingestible materials and devices, and electronic textile materials and devices, and (ii) printed electronics - terminology, materials, processes, equipment, products and health/ safety/ sustainability.

The committee may note.

Liaison:

IEC TC 124 Wearable Electronic Devices and Technologies (*Participating Member*)
IEC TC 119 Printed Electronics (*Participating Member*)

The committee may note.

The composition of LITD 33 along with the attendance status is given in **Annexure -1.**

The committee may deliberate and review its composition.

2.3 Request for Nomination

The following requests for membership have been received:

Sl. No.	Nomination	Organization
1.	Shri Anup Nandy	Individual Capacity
2.	Chandulal Vithalani	Individual Capacity
3.	Shri Sanjeev Kumar Mishra	Individual Capacity
4.	Shri Rahul Ingle	Individual Capacity

The brief profiles of the candidates are attached to the Agenda.

The Committee may deliberate and decide.

ITEM 3 R&D Projects

3.1 The following two R&D projects for the formulation of Indigenous Standard were awarded to the following:

- *Study of performance and safety parameters of Wearable E-Textile for Heating Application*
- *Study of performance and safety parameters of Wearable Compression E-Textile Products used for massaging application – Dr. Tribeni Roy, BITS Pilani*

The brief report (work done to date) and the fund utilization details have been provided by both the project leaders. These documents are attached.

The Committee needs to review the work done by the project leaders to date vis-à-vis the terms of reference of each project. The terms of reference documents are also attached.

Based on the approval of this Committee, the second installment of funds would be provided to the project leaders for further work.

The Committee may review and decide.

ITEM 4 New Subjects

4.1 The working draft on 'Functional Inks for Pens' proposed by IIT Kanpur, had been circulated to all members of this Committee. The last date for comments was 31 October 2024. The working draft is attached.

Comments received from Smt. Ratna Ghosh, JU is given below:

Draft is comprehensive. However, a few pointers to improve the draft are as follows:

1. pg. 4,5: pt. 7.0, 7.1: Method of connecting source while measuring resistance needs to be stated.
2. A few typos and grammatical errors are also there, which needs to be checked and corrected.
eg. pg 2 pt. 3.3 a,b: meaning not clear: which is drawn on a substrate, followed as necessary drying at ambient temperature.
pg3 pt. 5.2 To correct the line and insert missing %: Writable conductive/resistive ink for pen application has a non-volatile content is conductive metal. Which is vary between 30-35% of conductive and 12-15 resistive ink.

Shri Sudheer Kumar, IIT Kanpur may provide a resolution to the above comments.

The committee may deliberate and decide.

ITEM 5 INTERNATIONAL STANDARDIZATION ACTIVITIES

5.1 IEC TC 119 'Printed Electronics'

India participated in the last meeting of IEC TC 119 which was held in Edinburgh, UK from 21-25 October 2024. During this meeting, the following proposal for the formulation of an International Standard was accepted by IEC TC 119 and was successfully registered as a PWI (Preliminary Work Item):

- Functional Inks for pens – Dr. Sudheer Kumar, IIT Kanpur (PL)

A period of one year (till 31 October 2025) has been provided for the finalization of this project to a successful NP submission.

The Committee may note.

5.2 The next meeting of IEC TC 119 is scheduled to be held from 24-27 February 2025 in LOPEC, Munich.

The Committee may note.

5.3 IEC TC 124 'Wearable Electronic Devices and Technologies'

5.3.1 The forthcoming meeting of IEC TC 124 is scheduled to be held from 11-15 November 2024 in hybrid mode (Arlington, USA). The following delegation has been approved for participating in the meeting:

- Dr. Sanjeev Singh, DU
- Dr. Bipin Kumar, IIT Delhi
- Dr. Wazed Ali, IIT Delhi
- Dr. L Opilliprasad, IIT-BHU
- Ms Alismita Khag, BIS

5.3.2 The following projects from India have completed CD voting recently. Comments on these projects have been received from USA, Korea, Japan, UK, France and China. The comments file is attached.

- *IEC 63203-203-1: Wearable electronic devices and technologies - Part 203-1: Test method for measuring performance of fabric-based triboelectric generator (Dr. Bipin Kumar)*
- *IEC 63203-203-2: Wearable electronic devices and technologies - Part 203-2: Test method for measuring performance of fabric-based piezoelectric generator (Dr. Wazed Ali)*

The aforementioned documents would be discussed, for the purpose of resolution of comments, in the next meeting of IEC TC 124 (scheduled to be held in Singapore in 2025) as the resolution could be provided by the Project Leaders in the designated timeframe (3 weeks before the meeting).

India can request IEC TC 124 Secretariat to formally discuss the resolution (only if the PL's can submit the resolution before the meeting) during the meeting and take a decision that these resolutions be circulated to all members of IEC TC 124 through the IEC Collaboration platform and in case no comments are received, it can be moved to the next stage (CDV).

The Committee may deliberate and decide.

5.3.3 The following project from India, which is presently at the PWI stage, would be discussed in the meeting of IEC TC 124:

- Mobile Wearable Device Data Security – Dr. Sanjeev Singh

The detailed NP draft of the proposal has been submitted to Convenor WG 8 for further decision on the project.

The last date for the project was July 2024 (to be converted into an NP). Hence, we may request for further extension of the date for a period of one year or circulation of NP.

The Committee may deliberate and decide.

5.3.4 India had purpose the nomination of the following members in the respective Working Groups of IEC TC 124 for the position of Co-convenors:

- WG 1 'Terminology' – Shri Sanjeev Singh, DU
- WG 3 'Materials' – Shri Bipin Kumar, IIT Delhi (Satoshi Maeda - JPNC)
- WG 8 'Wearable Communications and Interfaces' – Ms. Alismita Khag, BIS. (Mr. Hyun-Kook Kahng – KRNC, Mr Marcin Meyer- Germany NC)

The aforementioned nominations will be deliberated in the IEC TC 124 meeting.

The Committee may deliberate and decide.

5.3.4.1 The following voting document would be discussed in the meeting:

124/282/Q – Extension of the terms of office for Convenors of TC 124: WG 1, WG 2, WG 4, and AG 1 for an additional 3-year term:

- WG 1: Mr. Laurent Houllion
- WG 2: Mr Satoshi Maeda and Mr Henry Yi Li
- WG 4: Mr. Deok-kee Kim

- AG 1: Mr. Jae Yeong Park

India NC has voted in favor for extension of term of office of the Convenors.

The Committee may note.

5.3.4.2 The following voting documents will be discussed in this meeting:

124/284/Q – Questionnaire on extending the PWI expiration dates of the following projects:

- PWI 124-9: Future IEC 63203-402-X: Wearable electronic devices and technologies - Part 402-X: Performance of stress measurements in wearables (PL: Ms Veronica Lancaster) ***(May 2022) – India NC voted against this extension***
- PWI 124-10: Future IEC 63203-20X-X: Wearable electronic devices and technologies - Part 20X-X: Standard Test Method for Measuring Resistance-based Textile Tensile Strain Sensors (RTTSS) in dry and wetted conditions (PL: Mr Henry Yi Li) ***(June 2022) - India NC voted in favor***
- PWI 124-11: Future IEC 63203-402-X: Wearable electronic devices and technologies - Part 402-X: Performance Measurement of Fitness Wearables – Sleep Measurement (PL: Ms Veronica Lancaster) ***(August 2023) - India NC voted in favor***
- PWI 124-13: Future IEC 63203-402-X: Wearable electronic devices and technologies - Part 402-X: Performance Measurement of Fitness Wearables – Test methods of glove-type motion sensing products (PL: Mr Yun Jae Won) ***(August 2023) - India NC voted in favor***

Note: The ISO/IEC Directives states that 'All preliminary work items that have not progressed to the proposal stage in the IEC by the expiration date given by the committee will be automatically cancelled from the programme of work.'

ITEM 6 DATE AND PLACE FOR THE NEXT MEETING

ITEM 7 ANY OTHER BUSINESS

ANNEXURE-1
Composition of LITD 33

COMPOSITION			ATTENDANCE			
S.No.	**Organization**	**Member Name**	**11th**	**12th**	**13th**	**Total**
1	Delhi University	Shri Sanjeev Singh	-	-	-	-
2.	Apple India Private Limited, Bengaluru	Mr. Junaid A Siddiquee	Y	Y	Y	3/3
		Mr. Arvind Gupta				
3.	BITS Pilani	Mr. Tribeni Roy	Y	Y	Y	3/3
4.	Broadcast Engineering Consultants India Limited, New Delhi	Mr. Padarabinda Das	Y	Y	Y	3/3
		Mr. W. B. Prasad				
5.	CSIR - National Physical Laboratory, New Delhi	Mr. Suraj Khanna	Y	N	Y	2/3
		Mr. Satish				
6.	Chandigarh College of Engineering and Technology (Degree Wing), Chandigarh	Mr. Anil Kumar	_	Y	Y	2/2
		Mr. Ankit Gupta				
7.	ERNET India, New Delhi	Mr. Hari Krishna Atluri	_	Y	N	1/2
		Mr. Kishor lala				
8.	High Performance Textiles Private Limited, Panipat	Mr. Nandan Kumar	Y	N	Y	2/32
9.	Indian Institute of Technology (ISM), Dhanbad	Mr. Amitesh Kumar	N	Y	Y	2/3
		Mr. Devendra Chack				
10.	Indian Institute of Technology BHU, Varanasi	Mr. Oppili Prasad	Y	Y	Y	3/3
		Mr. Amritanshu Pandey				
11.	Indian Institute of Technology Delhi, New Delhi	Shri Bipin Kumar	Y	Y	Y	3/3
		Mr. Wazed Ali				
12.	Indian Institute of Technology, Gandhinagar	Mr. Biswajit Saha	Y	N	N	1/3
13.	Indian Institute of Technology Kanpur	Mr. Sudheer Kumar	N	Y	Y	2/3
14.	Indian Institute of Technology, Indore	Mr. Santosh Kumar Vishvakarma	Y	Y	Y	3/3
15.	**Institute of Technology, Nirma University, Ahmedabad**	**Ms. Smita Agrawal**	_	**N**	**N**	**0/1**
		Dr. Himanshu K Patel				
16.	Manufacturers Association for Information Technology	Mr. Raunak Mishra	N	N	Y	1/3
		Mr. Ambuj Saksaria				
17.	National Institute of Fashion Technology, New Delhi	Shri Prabir Jana	Y	Y	Y	3/3
		Ms. Rashmi Thakur				
18.	National Institute of Technology, Tiruchirapalli	Mr. Dr. G. Lakshminarayanan	_	N	Y	1/2
		Mr. M Venkata Kirthiga				
		Mr. R Parthasarathy				
19.	Samsung India Electronics Private Limited, New Delhi	Mr. Sharat Chander	_	_	Y	1/1
		Mr. Dharma Rajagopalan				
20.	Standardization Testing and Quality Certification (STQC)	Mr Ashish Chaudhary	Y	Y	Y	3/3
		Smt. Raveena Gupta				
		Shri Mohammad Danish				
21.	**In personal capacity**	**Mr. Anand Yadav**	**N**	**N**	**N**	**0/3**
22.	**In personal capacity**	**Mr. Sandeep Kumar Maurya**	**Y**	**N**	**N**	**1/3**