Bureau of Indian Standards

BUREAU OF INDIAN STANDARDS

MINUTES

12th MEETING OF 'CODING AND PROCESSING OF AUDIO, PICTURE, MULTIMEDIA AND HYPERMEDIA INFORMATION' SECTIONAL COMMITTEE, LITD 23
(Virtual Meeting)

Date & Time	22nd April 2024, 11:00 – 13:00 hrs

Chairperson: Shri Mahesh Kulkarni, Ex-Senior Director (Corporate R&D), CDAC
Member Secretary: Mr Priyanshu Sharma, Scientist-B, BIS

List of participants

Sl.No.	Organization	Member Name
3.	Broadcast Engineering Consultants India Limited	Shri Padarabinda Das
4.	Consumer Electronics and Appliances Manufacturers Association	Shri Anil Mehta
5.	Consumer Electronics and Appliances Manufacturers Association	Shri Saurabh Kumar Singh
6.	Dhirubhai Ambani Institute of Information and Communication Technology	Prof. Manish K Gupta
7.	Dolby Technology India Pvt Ltd	Shri Rajesh Bhat
8.	Indian Institute of Technology Gandhinagar	Dr. Shanmuganathan Raman
9.	Ittiam Systems Private Limited	Shri Shailesh Ramamurthy
10.	Ittiam Systems Private Limited	Shri Murali Babu Muthukrishnan
11.	Samsung Research and Development Institute India	Shri Anubhav Singh

Regrets:-

12. Shri Mohammed Javed – Indian Institute of Information Technology, Allahabad
13. Shri Mahesh Narain Shukhla – AMD India Private Limited

ITEM 0   WELCOME

0.1   Member Secretary, Shri Priyanshu Sharma welcomed the participants to the meeting.

0.2   Shri Mahesh Kulkarni, Chairperson, formally welcomed the participants expressing gratitude for participation in a previous discussion on upcoming standards specially related to AR and MR technologies. He emphasized on the need for standards addressing the threat of Deep Fakes and platforms associated with them while stressing on the fact that while standardization is important, addressing Deep Fakes also requires government support, policy measures, and public awareness. He highlighted the importance of standards being applicable and accessible to the public, particularly concerning security concerns posed by advancements in AI. He urged members to focus on areas such as deep fake standardization, noting limited available material on progress in this field, despite efforts by organizations like ISO/IEC to develop performance metrics.

After a brief introduction of the members present, Member Secretary took upon the formal agenda items.

ITEM 1 FORMAL CONFIRMATION OF THE MINUTES OF THE LAST MEETING

1.1 The committee formally confirmed the minutes of the last (11th) meeting of Coding & Processing of Audio, Picture, Multimedia & Hypermedia Information Sectional Committee, LITD 23, which was held on 13 November since no comments were received.

ITEM 2 ISSUES ARISING OUT OF THE PREVIOUS MEETINGS

2.1 The committee noted and appreciated the progress of action items arising out of previous meeting.

ITEM 3 SCOPE & COMPOSITION OF SECTIONAL COMMITTEE

3.1 The committee reviewed the scope and composition of LITD 23 given in Annex-1 of the agenda.

3.2 The committee **decided** to write to the following institutes/organizations as decided during the meeting, given the importance & their relevance to the scope of the committee:

a) IIT Jodhpur – Chairperson, LITD 23 will seek and share contact details of concerned domain expert
b) IIT Delhi – To write another letter to the Director
c) Reliance Jio – Chairperson, LITD 23 will once again approach and share contact details of concerned domain expert
d) IIT Bhilai – Chairperson, LITD 23 to get in touch with Prof. Rajat Moona for concerned domain expert.
e) IIIT Nayaraipur – The committee decided to co-opt the institute and to write the co-option letter to Dr. Pradeep Kumar Sinha (Director), with a copy to LITD 23 Chairperson

3.3 The committee reviewed the agenda item 3.3 and **recommended** to withdraw the following organizations given their continuation lack of participation:

- ➢ NXP
- ➢ Texas Instruments

3.4 The committee **decided** to approach and write co-option letters to the institutes having MoU with BIS for nominating their relevant faculties in this committee to enhance the committee composition further.

3.5 CEAMA representatives requested to add Shri Anil Mehta as their representative in the committee composition. It was clarified by the Secretariat that usually not more than three members are added from one organization, unless appropriately justified. CEAMA representatives informed that they would internally review their nominations to the committee and communicate the same to the Member Secretary. The committee requested the Secretariat to update their nominations in the committee composition, once received.

3.5 It was also suggested that it will be fruitful to collect the data for people working on these subjects and it was noted that the broadcasting consortiums may already have a list of experts involved in this work Chairperson will approach Chair, BFI requesting them to share the list of Industry experts whose expertise may be relevant to the scope of LITD 23.

3.6 Mr. Manish Gupta suggested social media resources like LinkedIn may be useful to compile a list of individuals working in various Industries/universities and IITs who could potentially contribute to the standardization efforts of this committee. The committee also emphasized on the importance of reaching out to MeitY (Ministry of Electronics and Information Technology) to explore possibilities of onboarding experts specifically for work related to Deep Fakes and related technologies pertaining to JTC 1/SC 24 in the committee.

ITEM 4 UPDATE FROM PANEL UNDER LITD-23

The committee noted the information given in item 4 of the agenda and the committee appreciated the progress in the mandate of the panel and requested the panel to continue their planned bimonthly meetings to ensure timely finalization of the white paper.

The committee also authorized the panel to co-opt new experts with the approval of the panel Convenor, as and when needed, since the panel intends to have frequent meetings and it would be easier and efficient way to enhance the panel composition.

Dolby representative requested to add Shri NandaKumar Seshadri in the panel as the principal member and Shri Rajesh Bhat will be the alternate member in the panel. The committee accepted the request and **requested** the Member Secretary to add all panel members in the Panel whatsapp group too for easy communication.

ITEM 5 REVIEW OF PUBLISHED/UNDER DEVELOPMENT STANDARDS

5.1 Review of Published Standards

The committee reviewed the standards listed in agenda item 5.1 and **recommended** to reaffirm the following standard for another period of three years since these are important standards also referred in the Electronic Health Records (EHR) guidelines issued by MeitY. The committee further emphasized that if any inputs/comments are received before the due month of review, they may be considered and taken up for review by the committee:

SI No.	IS No.	Title	Review due on
1.	IS/ ISO/IEC 14496-3 : 2019	Information technology Coding of audio-visual objects Part 3: Audio First Revision	August 2024
2.	IS/ ISO/IEC 14496-22 : 2019	Information technology - Coding of audio - Visual objects: Part 22 open font format	August 2024
3.	IS/ ISO/IEC 14496-14 : 2020	Information technology coding of audio-visual objects part 14 mp4 file format (first revision)	August 2024
4.	IS/ ISO/IEC 14496-15 : 2019	Information technology coding of audio-visual objects part 15 carriage of network abstraction layer NAL unit structured video in the ISO base media file format (first revision)	November 2024

5.2 Draft Indian Standards under development.

The committee noted the information given in 5.2 of the agenda and **decided** the following:

SI No.	Doc. No.	Title	Secretariat Remarks
1.	LITD/23/24385 Revision in line with ISO/IEC 14496-12: 2022	Information Technology Coding of Audio-Visual Objects Part 12: ISO Base Media File Format	The committee finalized the document and **requested** the Member Secretary to send it for publication as an Indian standard.
2.	LITD/23/24383 Revision in line with ISO/IEC 14496-10 : 2022	Information Technology - Coding of Audio-Visual Objects Part 10 Advanced Video Coding	The committee finalized the document and **requested** the Member Secretary to send it for publication as an Indian standard.

5.3 The following draft Indian Standards are under publication stage:

The committee noted the information provided in 5.3 of the agenda.

ITEM 6 FUTURE ROADMAP OF THE COMMITTEE

During the meeting, the Member Secretary apprised the committee of the recent developments and initiatives in the international forum, JTC 1/SC 29 & JTC 1/SC 24. Emphasis was given on the work being done by SC 29/WG 1 JPEG group, which has started its work in various important areas such as JPEG DNA, JPEG AI, JPEG Pleno, JPEG Trust, JPEG 2000, JPEG XR, etc. and discussion followed on how these areas align with the committee's current work program. The Member Secretary gave a walkthrough of the JPEG website (jpeg.org) to the participants brainstorming them of the multiple subgroups formulated under the ambit of WG 1 for work in these specific areas and informed how such important and relevant information is available freely on these websites, including the background work, white papers, documents under development, etc. in these areas. Member Secretary also **requested** the committee members to go through this very informative website after the meeting and elaborated on how the early participation and contribution of the Indian experts would be beneficial to our nation.

Special attention was given to the **JPEG Trust** subgroup, which **addresses concerns related to Deep Fakes and Generative Adversarial Networks (GANs)**. Underlining the potential of JPEG Trust for enhancing national security, it was suggested that the committee should consider highlighting this to the Indian Government. Dr Manish Gupta added that the Indian Government is currently utilizing the Content Authenticity Initiative (CAI), led by Adobe, and emphasized the potential for JPEG Trust to complement and enhance the reliability of this initiative. Dr. Gupta also expressed his intention to share relevant links regarding ongoing initiatives in India that align with JPEG Trust's capabilities.

The committee requested BIS to also take this up with concerned line Ministry of the Government of India for the important work being done to in these areas, specifically related to deep fakes, Trust, AI, XR etc. The committee discussed that the Government ministries should be informed about such work at early stage for their consideration and also requested the members of LITD 23 to contribute to such important efforts at an early stage and present India's point of view & inputs during the development stage itself.

The committee **decided** to circulate the documents identical to the following ISO/IEC standards of JTC 1/SC 24 under WC for a period of 60 days. The committee also emphasized on the importance of simultaneously circulating these WC drafts to the relevant technical committees/Panels of BIS (Ex. LITDC P/8 Metaverse, LITD 28, etc), wherever possible and requested the Member Secretary to ensure the same.

SI.No	ISO/IEC No.	Title
1.	ISO/IEC 3721:2023	Information technology — Computer graphics, image processing and environmental data representation —Information model for mixed and augmented reality content — Core objects and attributes
2.	ISO/IEC TS 5147:2023	Information technology — Computer graphics, image processing and environmental data representation — Guidelines for representation and visualization of smart cities
3.	ISO/IEC 21145:2023	Information technology – Computer graphics, image processing and environmental data representation - Style representation for mixed and augmented reality
4.	ISO/IEC 23488:2022	Information technology- Computer graphics, image processing and environment data representation Object/environmental representation for image-based rendering in virtual/mixed and augmented reality (VR/MAR)
5.	ISO/IEC 18038:2020	Information technology – Computer graphics, image processing and environmental representation Sensor representation in mixed and augmented reality
6.	ISO/IEC 18039:2019	Information technology – Computer graphics, image processing and environmental data representation Mixed and augmented reality (MAR) reference model
7.	ISO/IEC 18040:2019	Information technology – Computer graphics, image processing and environmental data representation

		Live actor and entity representation in mixed and augmented reality (MAR)
8.	ISO/IEC 18520:2019	Information technology – Computer graphics, image processing and environmental data representation Benchmarking of vision-based spatial registration and tracking methods for mixed and augmented reality (MAR)

The committee **decided** not to take up the harmonization of the following two standards as Indian Standards, since these are free standards which are already available in public domain for free.

1.	ISO/IEC 19774-1:2019	Information technology – Computer graphics, image processing and environmental data representation Part 1: Humanoid animation (HAnim) architecture
2.	ISO/IEC 19774-2:2019	Information technology – Computer graphics, image processing and environmental data representation Part 2: Humanoid animation (HAnim) motion data animation

ITEM 7 GUIDELINES FOR RESEARCH & DEVELOPMENT (R&D) PROJECTS FOR THE FORMULATION AND REVIEW OF STANDARDS INVITING POTENTIAL R&D PROJECTS FROM THE COMMITTEE MEMBERS

The committee noted the information given in item 7 of the agenda and the committee members were again **encouraged** to submit potential R&D projects & their associated ToR for the consideration & review by the committee.

ITEM 8 PROGRAM OF WORK

8.1 The committee noted the information given in 8.1 of the agenda.

ITEM 9 INTERNATIONAL ACTIVITES

9.1 The committee noted the information given in 9.1 of the agenda.
9.2 The committee noted the information given in 9.2 of the agenda.

9.3 Each Expert was requested to provide update (Major standards of WG, standards in which expert is contributing and brief of standard and their contribution in the standard) w.r.t their working group. The committee reviewed the list of experts given in annex-3 of the agenda. The report of participation as shared by ITTIAM is given in Annex-1 of the minutes.

DA-IICT, SAMSUNG and Prasar Bharti were requested to provide an update on their WG participation to the BIS secretariat after the meeting.

9.4 ISO/IEC JTC 1 SC 24 & SC 29 MEETINGS

9.4.1 Upcoming Plenary Meetings of ISO/IEC JTC 1/SC 29

The committee noted the information pertaining to the 45th plenary meeting of JTC 1/SC 29, scheduled to be held during 20-21 July 2024 in Sapporo, Japan in face-to-face mode with

accommodation for remote participation. Since the agenda for the meeting is yet to be published, the Member secretary was requested to circulate the agenda for the meetings once it is available.

The committee **decided** to finalize the Indian delegation and the Indian contributions for the upcoming Plenary meetings over email.

9.4.2 Debriefing from the last Plenary Meetings of ISO/IEC JTC 1/SC 29 held during 06-08 February 2024

Prof. Manish K Gupta (DA-IICT Gandhinagar) provided a brief update of their participation in SC 29/WG 1 with enriching information on the submissions and contributions made by him in WG 1 of SC 29. The committee appreciated the good work and encouraged him and other experts involved to continuo their enthusiastic participation in the International standardization efforts

9.4.3 JTC 1/SC 29 WG meetings:

The committee noted the information given in 9.4.3 of the agenda pertaining to the WG meetings.

9.5 Standards of JTC 1/SC 29 & JTC 1/SC 24

9.5.1 The committee noted the information given in 9.5.1 of the agenda.

9.5.2 The committee noted the information given in 9.5.2 of the agenda.

9.6 DOCUMENTS DUE FOR VOTING

The committee considered the information given in 9.6 of the agenda and members were requested to review the document(s) due for voting which have already been circulated to the members and submit their inputs before the due date to the BIS secretariat.

ITEM 10 DATE AND PLACE FOR THE NEXT MEETING

The committee **decided** to schedule the next meeting in August 2024.

ITEM 11 ANY OTHER BUSINESS

11.1 There being no other items to be discussed, the meeting ended with vote of thanks to the members and chairperson.