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| The International Teleocmmunication Union - Connecting the World. | **International telecommunication union****Telecommunication Standardization Bureau** |  |
|  | Geneva, 11 December 2024 |
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| **E-mail:** | tsbevents@itu.int | **Copy to:**- The Chairs and Vice-Chais of Study Groups- The Director of the Telecommunication Development Bureau- The Director of the Radiocommunication Bureau |
| **Subject:** | **ITU Workshop on Future video coding – advanced signal processing, AI and Standards (Geneva, Switzerland, 17 January 2025)** |
| Dear Sir/Madam,1 The International Telecommunication Union (ITU) is organizing a workshop on **“Future video coding – advanced signal processing, AI and standards”** in Geneva, Switzerland on **17 January 2025 from 14h00 to 18h30 CET**. The workshop is jointly organized with ISO/IEC SC29 and collocated with meetings of [ITU-T Study Group 21](https://www.itu.int/en/ITU-T/studygroups/2025-2028/21/Pages/default.aspx) “Technologies for multimedia, content delivery and cable television”, as well as the ISO/IEC JTC1 SC29 and its [MPEG-related WGs](https://www.mpeg.org/meetings/mpeg-149/). Sessions of the Joint Video Experts Team ([JVET](https://www.itu.int/en/ITU-T/studygroups/2022-2024/16/video/Pages/jvet.aspx)) will also be scheduled at the same venue. The workshop will be held in English and remote participation will be provided. 2 As ITU-T and ISO/IEC explore the potential for launching a new joint project for the next generation of video coding standardization beyond the capabilities of the Versatile Video Coding (VVC) standard, multiple potential paths forward are emerging. One of the questions to discuss is the role to be played by Artificial Intelligence (AI) such as Machine Learning (ML) and Neural Network (NN) technologies. AI technology emerged prominently in the 2020s, and while it is certain to affect all our lives in many ways, its impact on the near-term future of communication technology remains uncertain. 3 Modern video technology for widespread mass-market deployment demands approaches that are practical, robust, low-power, and low-cost, as well as having state-of-the-art compression capability. The full processing chain of pre-processing, encoding, storage, transmission, decoding, post-processing, analysis, and repurposing of video content must be considered and must be capable of high-resolution, high frame rate, and high dynamic range. Moreover, tomorrow’s applications for even more immersive 3D and beyond-3D experiences with free viewpoints and photorealistic rendering will present new opportunities and new stress points for media experiences.4 Building from previous experiences, the two major standards-setting bodies in the area of video coding and processing technologies, ITU-T Study Group 21 and ISO/IEC JTC1 SC 29 recognize their responsibility to address this momentous shift in technology. The two organizations have been working very closely and successfully on the development of several generations of video coding technical standards including H.264/AVC, H.265/HEVC and H.266/VVC since the turn of the century. The collaboration between SG21 and SC 29 has proven to be highly effective, bringing together cutting-edge research and business needs in a way that advances both technology and industry interest.Already, the Joint Video Experts Team (JVET) of SG21 and SC 29 have made significant progress in exploring Neural Network-based Video Coding (NNVC) and more conventional compression approaches by developing the enhanced compression model (ECM) and hybrids of NNVC and ECM schemes.5 Participation in the workshop is free of charge and open to ITU Member States, Sector Members, Associates and Academic Institutions and to any individual from a country that is a member of ITU who wishes to contribute to the work. This includes individuals who are also members of international, regional, and national organizations, but please note that registration to attend either in person or online is mandatory. To enable TSB to make the necessary arrangements concerning the organization of the workshop, I should be grateful if you would register as soon as possible at: <https://www.itu.int/net4/CRM/xreg/web/Registration.aspx?Event=C-00014916>, no later than **13 January 2025. Please note that pre-registration of participants for workshops is mandatory and carried out online.**6 All relevant Information pertaining to the workshop including the draft programme will be made available on the event website at: <https://www.itu.int/en/ITU-T/Workshops-and-Seminars/2025/0117/Pages/default.aspx>. The event webpage will be updated regularly as more information becomes available. Participants are encouraged to check the webpage periodically for updates.7 I would like to remind you that citizens of some countries are required to obtain a visa in order to enter and spend any time in Switzerland. The visa must be obtained from the office (embassy or consulate) representing Switzerland in your country or, if there is no such office in your country, from the one that is closest to the country of departure. Visa processing and approval may take some time, it is therefore suggested to check directly with the appropriate representation and apply early.Yours faithfully,Seizo OnoeDirector of the TelecommunicationStandardization Bureau**Annex**: 1 |
| **ANNEXITU Workshop on Future video coding – advanced signal processing, AI and standards**Geneva, Switzerland, Friday, 17 January 2025**Draft Programme**

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| **13:00 – 14:00** | **Registration** |
| **14:00 – 14:15** | **Opening Remarks** |
| **14:15 – 15:30****(1h15m)** | **Session 1 – Requirements and use cases: Voices from industry and users***Executives, managers and research leaders from the representative sectors of various industries will gather to give the audience a chance to hear their first-hand voices, which constitute the very basis for next generation video coding technical standards requirements. Industries chosen include smart phones and devices, Internet/OTT, social media, semiconductor, telecom, computing/cloud, automotive, etc.* |
| **15:30 – 16:30 (1h)** | **Session 2 – Towards H.267/MPEG-Next: Current status in JVET and future time horizon***The major leaders and key experts involved in the JVET work will guide the audience in a review of current status of next generation coding technical standards development preparation, plan and time line considerations, as well as primary aspects of the technologies with emphasis on a few themes like hardware including CPU-and-GPU synergy, memory-and-computing unification, cost-effectiveness in implementation, etc.* |
| **16:30 – 17:00****(30m)** | **Coffee Break** |
| **17:00 – 18:15(1h15)** | **Session 3 – Practicalities: Hardware capabilities and software implementations***This session will explore the crucial intersection of hardware capabilities and software implementations in the context of future video coding standards. Experts will discuss the practical challenges and opportunities in translating next-generation coding algorithms into real-world solutions. Topics will include optimizing hardware for advanced video coding, balancing computational demands with energy efficiency, leveraging AI-driven signal processing, and aligning software innovations with emerging hardware platforms. Attendees will gain insight into the implementation feasibility and performance trade-offs required for successful deployment across a wide range of industries and use cases.* |
| **18:15 - 18:30(15m)** | **Session 4 – Conclusions and wrap-up***In this session, the focal points in ITU-T SG21 and JTC 1 SC 29 will draw conclusions from previous discussion including collaboration mechanism and key elements of the joint development scheme for the next generation video coding standards.* |

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