

## RECOMMENDATION ITU-R BT.1666

**User requirements for large screen digital imagery<sup>1</sup> applications  
intended for presentation in a theatrical environment**

(Question ITU-R 15/6)

(2003)

The ITU Radiocommunication Assembly,

*considering*

- a) that ITU, as well as other international standardising bodies, is studying a new application called large screen digital imagery (LSDI);
- b) that several applications will likely be identified for LSDI;
- c) that it may be beneficial to develop a uniform or compatible hierarchy of technical standards for programme recording, mastering, exchange, delivery and exhibition, harmonised with those established for the recording and mastering, exchange and delivery of programmes for other applications, since this can ease international programme exchange;
- d) that the possibility for theatre operators to present various types of programmes in their theatres (e.g. dramas, plays, sporting events, concerts, cultural events, etc.) would open new commercial opportunities, which could be attractive both to theatre operators and to their public;
- e) that there is a need to encourage the development of fully interoperable, competitive products that can be maintained at relatively low cost;
- f) that some broadcasters see LSDI as an opportunity to increase the penetration of the programmes for which they hold the rights, at a higher quality than that known to traditional broadcasting in the past;
- g) that LSDI programmes, including high definition television (HDTV) programmes, will be distributed to audiences in theatres utilising real-time and non-real-time delivery by satellite, cable, fibre, terrestrial broadcast, or via recorded media;
- h) that it is essential to adopt open technical standards for distribution and display of programmes intended for presentation in LSDI theatres, and that those standards should consider existing standards,

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<sup>1</sup> Large screen digital imagery (LSDI) is a family of digital imagery systems applicable to programmes such as dramas, plays, sporting events, concerts, cultural events, etc. from capture to large screen presentation in high-resolution quality in appropriately equipped cinema theatres, halls and other venues.

*recommends*

1 that the user requirements in Annex 1 for theatrical presentation of LSDI programmes should be taken into account when specifying a hierarchy of technical approaches for LSDI applications designed for collective viewing in cinema theatre venues.

## **Annex 1**

### **User requirements for theatrical presentation of LSDI programmes**

#### *Performance*

- Technical specifications for specific performance levels should be established.
- LSDI theatre presentations should be capable of providing a range of subjective picture and sound qualities based on a family of applications, e.g. ranging from commercials through sporting events to highest quality drama, plays, etc.
- For applications within the framework of Question ITU-R 15/6, at the highest performance level of the LSDI system, the subjective overall picture and sound quality should parallel or exceed the one currently enjoyed by audiences in cinema theatres.

#### *Interoperability*

- Content shall be playable with uniform results on different makes and technologies of playback and projection equipment.
- The image and sound digital representation, encoding, encryption, storage and playout should conform to open technical standards applicable around the world.
- The metadata accompanying LSDI programmes should also conform to open technical standards applicable around the world.
- Technical equipment developed for LSDI distribution and presentation should be fully interoperable among various vendor systems.

#### *Delivery method and verification*

- LSDI systems should allow for the real-time delivery interfaces used in the cable, optical fibre, broadcast and satellite industries, as well as non-real-time delivery interfaces used in telecommunications.
- Release masters of content intended for presentation in LSDI theatres should be deliverable over the whole variety of release media on which distributors may choose to release them, such as physical media, terrestrial, satellite, cable or optical fibre transmission.

#### *Signal formats*

- Technical systems and formats adopted for LSDI should facilitate the interfacing and presentation of HDTV and standard definition television (SDTV) material in theatres.

*Security*

- Provisions for the implementation of effective and secure conditional access and copy protection methods, when needed, should conform to open technical standards applicable around the world.

*Remote monitoring*

- Automatic and remote monitoring of equipment performance and status reporting should comply with the industry standards that are compatible with secure networks.

*Content packaging/interchange*

- The system should allow the LSDI theatre operator to have discretion over presentation of all LSDI contents and also should allow the ability to select language(s) and rating version(s) if applicable.

*Compression*

- LSDI video and audio decoders should support broadcast decoding.
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