



ITU-R Activities in 3D

WP6C Rapporteurs for 3D TV

30 April 2009

ITU-R WP6C Activities in 3D

- ITU-R Question:
'Digital three-dimensional (3D) TV broadcasting'
- Review existing ITU-R Reports and Recommendations
- Gather information on latest developments in 3D TV
- Prepare preliminary draft new report:
'Requirements for 3D TV broadcasting systems and steps to a Recommendation for a first generation system'

- Radiocommunication sector
 - Includes Broadcasting

- Working Party 6C
 - Programme production and quality assessment

ITU-R Question 128/6 (2008)

■ *considering*

- a) that existing TV broadcasting systems do not provide complete perception of reproduced pictures as natural three-dimensional scenes;
- b) that viewers' experience of presence in reproduced pictures may be enhanced by 3D TV, which is anticipated to be an important future application of digital TV broadcasting;
- c) that the cinema industry is moving quickly towards production and display in 3D;
- d) that research into various applications of new technologies (for example, holographic imaging) that could be used in 3D TV broadcasting is taking place in many countries;
- e) that progress in new methods of digital TV signal compression and processing is opening the door to the practical realization of multifunctional 3D TV broadcasting systems;
- f) that the development of uniform world standards for 3D TV systems, covering various aspects of digital TV broadcasting, would encourage adoption across the digital divide and prevent a multiplicity of standards;
- g) the harmonization of broadcast and non-broadcast applications of 3D TV is desirable,

ITU-R Question 128/6 (2008)

- *decides* that the following Questions should be studied:
 - 1 What are the user requirements for digital 3D TV broadcasting systems?
 - 2 What are the requirements for image viewing and sound listening conditions for 3D TV?
 - 3 What 3D TV broadcasting systems currently exist or are being developed for the purposes of TV programme production, post-production, television recording, archiving, distribution and transmission for realization of 3D TV broadcasting?
 - 4 What new methods of image capture and recording would be suitable for the effective representation of three-dimensional scenes?

Existing ITU-R Reports and Recommendations

- Rec. ITU-R BT.1198 (1995) Stereoscopic television based on R- and L-eye two channel signals
- Rec. ITU-R BT.1438 (2000) Subjective assessment of stereoscopic television pictures'
- Report ITU-R BT.312-5 (1990) Constitution of stereoscopic television
- Report ITU-R BT.2017 (1998) Stereoscopic television MPEG-2 multi-view profile
- Report ITU-R BT.2088 (2006) Stereoscopic Television

Working document in WP6C

- 'Requirements for 3D TV broadcasting systems and steps to a Recommendation for a first generation system'
 - 'work in progress' towards preliminary draft report
 - map the landscape
 - identify issues to be addressed

Issues

- Production grammar
 - 3D production for television still in infancy!
 - monitoring
- Compatibility
 - different issues for pay TV and free-to-air operators?
- Assess quality/suitability
 - methodologies for the quality assessment of 3D TV systems
 - What parameters need to be measured that are specific to 3D TV?
 - sensation of reality;
 - ease of viewing;
 - others?
- What are the user requirements?

Next steps

- Develop and refine the draft report
- Identify topics for possible future Recommendations:
 1. Quality assessment methods for 3D TV systems
 2. Requirements for the broadcasting chain
 3. Requirements for production grammar
 4. Requirements for 3D broadcasting systems, including requirements for first-generation systems