



# ISG CCM

## Terms of Reference

**From:** Founding members of an ISG on 'intelligent Compound Content Management' (CCM)

**To:** ETSI Director General

**Subject:** Terms of Reference of the Industry Specification Group on 'intelligent Compound Content Management' (ISG CCM)

### 1 References

TWP clause 3	Operation of Industry Specification groups
TWP clause 3.2	Creation and Termination of an Industry Specification Group
TWP Annex D 3	Requirements for an Industry Specification Group

### 2 Rationale

Today's Television content is mastered to a peak brightness of around 100 candela/m<sup>2</sup> as defined by existing ITU-R and SMPTE (Society of Motion Picture & Television Engineers) standards. New High Dynamic Range (HDR) and Wider Colour Gamut (WCG) production technologies and standards have recently been introduced into these bodies for Film and Broadcast content creation which remove this limitation allowing greater creative freedom and more realistic images.

There is a broad acceptance in the content, content distribution and consumer electronics industries that the addition of HDR/WCG will be the enabler for mass market sales of the next generation Ultra-HD displays and equipment.

Two trade associations, the UHD Alliance (<http://www.uhdalliance.org/>) and the UHD Forum (<http://www.ultrahdforum.org/>) representing members from the entire ecosystem have been started to promote HDR/WCG images to the home. The Blu-ray Disk Association ([www.blu-raydisc.com](http://www.blu-raydisc.com)) has also announced a new generation of UltraHD discs and players that incorporate HDR/WCG technologies.

Nonetheless for many years hence, legacy receivers, including tablet devices, will comprise the majority of the receiver installed base. To ensure a smooth transition between today's television standards and tomorrow's, a new transmission system should offer backwards compatibility with today's television standards whilst also providing the full quality for the next generation HDR/WCG televisions.

Several proposals have been made in order to achieve such a transition, but in each case this has involved compromising either the quality of today's television images or the quality of the future HDR/WCG images or both. It is therefore necessary to find a solution where no compromise is needed either for today's images or for future HDR images, thereby maintaining the highest levels of creative intent. A *Compound Content* transmission system would allow two or more qualities or grades of content to be sent simultaneously and permits the intelligent reconstruction of one or more of these qualities or grades in the receiver without compromising the intent of the other.

The creation of an ETSI ISG is essential to taking forward CCM work as it will enable experts who are not ETSI members to provide input. Any HDR/WCG transmission solution must take into account the diverse needs of the content creation industry, the work currently being undertaken in the ITU-R and SMPTE regarding new HDR/WCG production technologies, the complexity of any solution in Silicon and the quality of the signals to be delivered through DVB or ATSC based systems to both legacy devices and HDR/WCG devices.

## **3 Terms of Reference for ETSI ISG CCM [TWP D.3, Part Aa]**

### **3.1 Scope**

The CCM ISG will define and specify the additional functionality required in consumer devices to enable the accurate recreation of both today's television signal and the HDR/WCG signal from content created using the production techniques under development in SMPTE.

The requirement not to compromise the quality of the legacy signal using today's displays but yet to provide the highest quality HDR/WCG quality signal for a new generation of televisions is onerous and requires analysis to derive an optimal solution.

However, given the requirement to achieve backwards compatibility with existing receivers, some additional technology will be required in the next generation of HDR/WCG receivers to accurately recreate the HDR/WCG signal.

This group will specify the technology needed and ensure that the creative intent embedded into both legacy and HDR/WCG content is preserved and propagated through the appropriate interfaces.

### **3.2 Membership**

Membership is restricted in accordance with Clause 3.4 of the ETSI Technical Working Procedures to ETSI Full/Associate members and applicants for Full/Associate membership [hereafter "ISG CCM Member(s)"], who have signed the ISG CCM Membership Agreement.

Observers and non-members of ETSI may not become members of the ISG but may participate in the ISG according to the rules as described in the ISG CCM Participant Agreement (see clause 3.7.1 below). Participation of non-members of ETSI [hereafter "ISG CCM Participant(s)"] is subject to acceptance of the ISG Participant Agreement, and payment of a per-meeting participation fee as described in the ISG Participant Agreement.

ISG CCM Member(s) and ISG CCM Participant(s) together will be defined as ISG CCM member(s).

### **3.3 Dues**

Dues for membership and operation are fixed on an annual basis by the ISG CCM members, based on the costs the ISG CCM members anticipate to incur. Currently, no or minimal annual dues are anticipated.

### **3.4 Duties and Rights of Members**

ISG CCM Members and ISG CCM Participants have the duty to constructively cooperate in compliance with all applicable competition law rules on the development of ISG Group Specifications within the scope of the ISG as described in 3.1.

ISG CCM Members have the right to cast their vote on the approval of a Group Specification when necessary, and in other instances when decisions by the ISG CCM Members are required. ISG CCM Members have the right to appeal directly to the ETSI Board to challenge a Chairman's decision and shall inform the ISG Chairman and the ETSI Director-General beforehand.

## **3.5 Participant Fee**

The ISG CCM Participant shall pay to ETSI a per-meeting attendance fee amounting to €100 (excluding taxes) per delegate per physical meeting day. These fees may be modified by ETSI on consultation with the ISG CCM.

## **3.6 Preparation of Group Specifications**

Group specifications are prepared within the ISG CCM or within specific working groups. Working groups are chaired by working group chairs, who are appointed according to the rules of operation of the ISG. All draft specifications should be approved by Consensus by the ISG CCM members according to the rules of operation of the ISG. In case Consensus cannot be achieved then article 3.7.3 applies. If a specification is prepared in a working group and fails to be approved by the ISG CCM members, it is referred back to the working group.

## **3.7 Detailed deviations from the ETSI Technical Working Procedures (TWP)**

In the following, deviations from the applicable ETSI TWP as agreed by the ISG CCM Members, are stipulated.

Section 3.7 is included in these Terms of Reference only for information as the prevailing document in respect of changes to the TWP is the ISG CCM Membership Agreement.

### **3.7.1 Participation in the work of the Industry Specification Group (extension of TWP 3.4)**

Observers or non-members of ETSI must agree to and sign the ISG CCMM Participant Agreement in order to be authorized to participate. The ISG CCM Participant Agreement will be terminated if the ISG CCM Participant has not participated in at least 2 meetings of the ISG CCM in a 6 months period, or if there aren't 2 meetings in a 6 months period but only in a longer period, if the participant has not participated in 2 meetings of the ISG CCM in such longer period. A revocation notice under article 9.1 (c) of the ISG CCM Participant Agreement is sent to the ISG CCM Participant in this case. The ISG CCM Chairman will periodically review the participation record of authorized ISG CCM Participants.

Access to meeting documents, mailing lists etc. will be removed from authorized ISG CCM Participants if they fail to participate in, or register and pay participation fees for 2 successive meetings.

### **3.7.2 Convening an ISG meeting (TWP 3.5)**

#### **3.7.2.1 *Invitation to an Industry Specification Group meeting (TWP 1.5.1)***

The invitation to an Industry Specification Group meeting and the necessary logistical information shall be disseminated by the hosting organization at least 21 days before the meeting to all on the Industry Specification Group membership list (see clause TWP 1.5.5).

The first meeting of a new Industry Specification Group will be announced in a Collective Letter, with at least 30 days notice, by the ETSI Secretariat.

#### **3.7.2.2 *Agenda for an Industry Specification Group meeting (TWP 1.5.2)***

The draft agenda shall be disseminated by the responsible Chairman to all on the Industry Specification Group membership list at least 21 days before a meeting. The draft agenda shall include details of draft ETSI Group Specifications for approval and officials for appointment. Any other subject matters where voting may be required shall also be included and indicated in the draft agenda.

The draft agenda for the first meeting of a new Industry Specification Group will be announced in a Collective Letter, with at least 30 days notice, by the ETSI Secretariat.

### **3.7.2.3      *Documentation for an Industry Specification Group meeting (TWP 1.5.3)***

Documents shall be numbered as shown in the following example:

**ETSI/CCM(nn)x**

This numbering system has three logical elements:

- 1)      **ETSI:** to indicate that it is an ETSI document;
- 2)      **CCM:** the name of the Industry Specification Group or related Working Group;
- 3)      **(nn):** to indicate the year, e.g. (15);
- 4)      **x:** to indicate any additional information concerning the unique number of the document or its status, etc

### **3.7.2.4      *Registration for an Industry Specification Group meeting (TWP 1.5.4)***

Every Attendee shall register prior to the meeting using the Meetings Application on the ETSI Portal or on arrival at the meeting. Where registration is made on arrival at the meeting each Attendee representing an ISG CCM Member or ISG CCM Participant shall declare the precise name of that ISG CCM Member or ISG CCM Participant. An Attendee may only represent one ISG CCM Member or one ISG CCM Participant.

### **3.7.2.5      *Maintaining an Industry Specification Group membership list (TWP 1.5.5)***

The CCM Industry Specification Group shall maintain a membership list within an email exploder list established specifically for that purpose. Any individual may join this email exploder list if he/she is a representative of a legal entity that has signed an ISG CCM Member or Participant agreement and has an ETSI server user account, and those who join this email exploder list will be considered as being on the Industry Specification Group membership list. Failure to reconfirm the intention to remain on the email exploder list at regular intervals (lists are normally reviewed every six months) will result in removal from this email exploder list and thus from the Industry Specification Group membership list.

The Industry Specification Group membership list shall be used for the dissemination of information and for decision making within the Industry Specification Group.

## **3.7.3      *Decision making (TWP 1.7 and TWP 3.7)***

### **3.7.3.1      *Principles of decision making (TWP 1.7.1)***

The ISG CCM shall endeavour to reach Consensus on all issues, including the approval of draft ETSI Group Specifications. If Consensus cannot be achieved, the Chairman can decide to take a vote which may be performed by a secret ballot. A vote may be conducted during an ISG CCM meeting or by correspondence.

Where voting is used, vote results shall be evaluated by the Chairman on the basis of one ISG CCM Member, one vote. ISG CCM Participants do not have the right to vote.

Decisions concerning (i) the ISG CCM budget under Article 3.1(b) of the ISG CCM Member Agreement, (ii) Additional Costs under Article 3.1(c) of the ISG CCM Member Agreement, and (iii) the allocation of costs among ISG CCM Members under Article 3.2 of the ISG CCM Member Agreement, require unanimous support. For all other decisions, except for the appointment of officials of the ISG CCM, a proposal shall be deemed to be approved if 71 % of the votes cast by the ISG CCM Members are in favour. Abstentions or failure to submit a vote shall not be included in determining the number of votes cast.

#### **3.7.3.1.1      *Voting during an ISG CCM meeting (TWP 1.7.1.1)***

The following procedures apply for voting during an ISG CCM meeting:

- before voting, a clear definition of the issues shall be provided by the chairman;
- voting ISG CCM Members shall only be entitled to one vote per ISG CCM Member;
- if a voting ISG CCM Member has more than one representative present, only one representative may vote;
- if manual voting procedures are used, each voting ISG CCM Member may only cast the vote once; if electronic voting procedures are used, votes may be changed prior to the closure of the vote;
- ISG CCM Members are only eligible for voting (voting members), if they have been present during at least 2 out of the previous 3 meetings;
- Founding members of the ISG CCM as identified in the ISG Agreement shall be eligible to vote during and up to the end of the first 2 meetings following the creation of the ISG. Thereafter they are subject to the above participation requirements as for all other ISG CCM Members;
- voting by proxy is not permitted;
- there are no quorum requirements;
- the voting weight shall be 1 per voting ISG CCM Member;
- the result of the vote shall be recorded in the meeting report.

### **3.7.3.1.2    *Voting by correspondence (TWP 1.7.1.2)***

The following procedures apply for voting by correspondence:

- before voting, a clear definition of the issues shall be provided by the Chairman and disseminated to all on the ISG CCM membership list;
- the voting period shall be defined by the ISG CCM Chairman and communicated to all on the ISG CCM membership list;
- ISG CCM Members are only eligible for voting (voting members), if they have been present during at least 2 out of the previous 3 meetings;
- Founding members of the ISG CCM as identified in the ISG Agreement shall be eligible to vote during and up to the end of the first 2 meetings following the creation of the ISG. Thereafter they are subject to the above participation requirements as for all other ISG CCM Members;
- voting members shall only be entitled to one vote per ISG CCM Member;
- electronic voting only shall be used for voting by correspondence;
- votes may be changed prior to the closure of the vote;
- the voting weight shall be 1 per voting ISG CCM Member;
- there are no quorum requirements;
- at the end of the voting period the Chairman shall count the votes as described in clause 1.7.1 of TWP;
- the result of the vote should be disseminated to everybody on the ISG membership list within 15 days.

### **3.7.3.1.3    *Voting for the election of an ISG CCM official (TWP 1.7.1.3)***

For the purpose of electing any ISG CCM official the procedures given in clauses 3.7.3.1, 3.7.3.1.1 and 3.7.3.1.2 shall apply.

In the case where there is more than one candidate, a secret ballot shall be used. For interpreting the result of an election for an ISG CCM official the candidate obtaining the highest number of votes in the ballot is elected.

In addition to performing its task in strict impartiality and in the interest of ETSI, the ISG CCM Chairman shall be responsible for the voting process and shall ensure that confidentiality is maintained.

If the vote is conducted during an ISG CCM meeting only the final result shall be recorded in the meeting report.

If the vote is conducted by correspondence only the final result of the vote shall be disseminated.

### **3.7.3.2      *Appealing against a Chairman's decision (TWP 1.7.2)***

Any ISG CCM Member who is against the Chairman's ruling on a vote may submit its case to the Board for decision. In such cases the ISG CCM Member shall also inform the Industry Specification Group Chairman and the ETSI Director General beforehand.

When the Industry Specification Group Chairman has made a ruling, his decision shall be taken as the basis for future operations, unless overturned by the Board.

## **4      ETSI field of interest [TWP D.3, Part Ab]]**

The primary objective of the ISG CCM is to specify the additional technology required in a new generation of HDR/WCG receivers. The signal sent to these new HDR/WCG receivers must be backwards compatible with legacy receivers and not compromise the quality of either the legacy or the HDR/WCG reception.

As the areas of creation, distribution, decoding and reproduction of HDR/WCG images for consumer consumption are still in their infancy, a detailed understanding of the HDR/WCG ecosystem proposals is required. A full ecosystem solution can only be created when all the elements of the system are harmonized.

The aim of this group is that this technology should be deployed world-wide.

## **5      Why any overlapping or complementary elements (with reference to existing work or Terms of Reference of any existing Technical Committee or Project) is regarded as desirable [TWP D.3, Part Ac)]**

The work of the ISG CCM would be complementary with existing work in ETSI. There is no known overlapping with any ongoing work in ETSI.

## **6      Time plan [TWP D.3, Part Ad)]**

The ISG CCM intends to hold an initial meeting within 30 days of formation to appoint the Chairman. The ISG CCM intends to meet thereafter in person or by teleconference to produce Group Specifications.

The planned date for completion of the work of the ISG CCM is about 9 months from the kick-off meeting. This timescale is required to meet market needs in this fast moving area. Due to significant industry interest concerning HDR/WCG systems, the ISG CCM intends to provide information on both technology and progress to significant external industry standards bodies such as ATSC and DVB. This could be in the form of liaisons or white papers.

After 1 year, ISG CCM will make proposals on how to evolve the ISG CCM's future activities:

- close the ISG,
- or transfer and continue the work in an existing Technical Body meaning that all ISG CCM Participants would be required to become ETSI members and that the ISG CCM voting rule would be changed to the ETSI Directive TC weighted vote rule,
- or create a new Technical Body (new WG in a TC, new TC, new EP or new EPP)
- or continue in ISG CCM for an extended period with revised Terms of Reference.

## **7      Chairmanship [TWP D.3, Part Ae)]**

- David Holliday, representative of Dolby Laboratories Inc, has accepted to stand as convenor for the first meeting. The Collective Letter announcing the first meeting will include a call for

candidates for the Chairmanship. If it is not possible to appoint a permanent Chairman at the first meeting then the meeting shall appoint a convenor for the second meeting. The term of chairmanship is 1 year.

## **8 Resource requirements [TWP D.3, Part Af]]**

No resource requirements, beyond the "basic administrative support" provided by the ETSI Secretariat to ISGs, have been identified. Further resource requirements may be identified from time to time by the ISG CCM members, who will decide on the funding arrangements as required.

## **9 ETSI Secretariat resources [TWP D.3, Part Ag]]**

"Basic administrative support" will be provided by the ETSI Secretariat, e.g. :

- info/meeting/document handling area on the ETSI Portal.
- document storage area on the ETSI DOCBOX server.
- e-mail lists provision
- entry of the Work Items into the WPM database .
- processing/publication of ETSI Group Specifications (providing they have respected the ETSI Drafting Rules).
- a support officer will be allocated to provide guidance and assistance to the ISG.

Support for meetings will be provided when the meeting is held at the ETSI Headquarters, e.g.:

- meeting rooms in ETSI premises.
- meeting support for invitations, badges, etc in ETSI premises.
- tea/coffee in ETSI premises.

Meetings held outside of the ETSI Headquarters shall be supported by the hosting ISG CCM member organization.

## **10 ISG membership agreement [TWP D.3, Part Ah]]**

See separate ISG CCM Agreements (Member Agreement and Participant Agreement).

## **11 ETSI full and/or associate members having declared their willingness to provide resources [TWP D.3, Part Ba]]**

The following ETSI members ('founding members') have indicated that they are willing to provide resources to support the work of this ISG:

- BT Group Plc
- Dolby Laboratories Inc
- STMicroelectronics
- Telefonica S.A.

## **12 Planned deliverables and their delivery dates shall be identified [TWP D.3, Part Bb]]**

It is planned to produce one or a set of Group Specifications (GS) not later than 9 months after the ISG CCM kick-off meeting. The deliverable(s) will define and specify the additional functionality required in consumer devices to enable the accurate recreation of both today's television signal and

the HDR/WCG signal in order to ensure a smooth transition towards tomorrow's televisions and tablets.

### **13 Internal organization [TWP D.3, Part Bc)]**

No internal organization or Working Groups have yet been identified. This will depend on the results of the initial work of the ISG.

### **14 Any committee/project-external ETSI resources required (i.e. outside those provided by the Industry Specification Group participants) shall be specified [TWP D.3, Part Bd)]**

No additional resources required.

### **15 Maintenance arrangements for deliverables shall be specified [TWP D.3, Part Be)]**

The maintenance of any deliverables will be assured by the ISG. At the end of the work the ISG shall define the follow-on responsibility for any required maintenance.

### **16 The relationship with ETSI Technical Organisation shall be specified (i.e. list the interfaces between the ISG and ETSI TBs) [TWP D.3, Part Bf)]**

Liaisons are envisaged with the following entities:

- ETSI JTC Broadcast
- EBU Beyond HD Group
- DVB TM-AVC
- ATSC
- 3GPP
- ITU
- ISO/IEC JTC1 SC29 WG12

ISG CCM will take due consideration of ongoing work in relevant external standards bodies' and endeavour to find alignment so as to minimize diversity of solutions."