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**Information technology**  
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**Presentation of ISO/IEC JTC1/SC24:**  
“Computer Graphics, Image  
Processing, Environmental Data  
Representation, and The Augmented  
Reality Continuum” **for the 28<sup>th</sup> JTC 1  
Plenary Meeting, 4 - 9 Nov. 2013,  
Palais de Congres, Perros-Guirec,  
France (SC 24N3562)**

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**SC24 Chairman**

# What SC 24 is doing: (1/5)

- **3 new programmes of work on ARC:**
  - ARC Concepts & RM part-1(18521-1),
  - ARC Concepts & RM part-2(18521-1),
  - ARC Concepts & RM part-3(18521-3).
- **SC 24 requests JTC 1 make appropriate change to terminology: 'ARC(Augmented Reality Continuum) ⇒ MAR(Mixed and Augmented Reality'. (7, Res. 2013)**
- **SC 24 support Cooperation with JTC 1/SC 29/WG 11 being paid to ISO Patent Policy clause 2a on IPR. (9, Res. 2013)**
- **SC 24 approves MAR RM work will be undertaken by a JTC 1/ JWG forming based on JTC 1 Directives clause 1.12.6. as (10, Res. 2013).**

# Resolutions 10. Mixed and Augmented Reality Relationship with ISO/IEC JTC 1/SC 29

ISO/IEC JTC 1/SC 24 approves and promotes the development of the MAR (Mixed and Augmented Reality) Reference Model work which would be undertaken by a JTC 1 Joint Working Group to be formed as follows based on the ISO/IEC JTC 1 Directives clause 1.12.6:

- a. The work would be based on approved project ISO/IEC 18521-1 currently assigned to SC 24 and approved project ISO/IEC 23000-13 currently assigned to SC 29 both under an IPR policy conforming to the ISO/IEC/ITU common patent policy.
- b. Co-conveners would be chosen, one from SC 24 (e.g., *Gerard J. Kim*) and one from SC 29 (e.g., *Marius Preda*).
- c. SC24 volunteers for the administrative responsibilities for the Joint Working Group (JWG).
- d. Co-editors would be identified from SC 24 and SC 29.
- e. External SDOs would also be able to participate through their respective category C liaison relationships provided they agree to abide by the IPR policy of the JWG.

# What SC 24 is doing: (2/5)

- By the resolution 34. Augmented Reality of JTC 1 Plenary meeting, 2012, in Jeju: in response to recommendation 7 of Ad Hoc Structure report (JTC 1 N11215). ⇒ Ad hoc joint group “SC 24/SC 29 Joint AdHoc Group(**JAhG**)” had been established.
- SC 24 nominated 3 members(G. Kim, G. Lee & R. Manson) as the delegation to SC 24/WG 9 on 13-01-31, in 5th SC 24/WG 9 meeting, Seoul, Korea.
- 4 f2f mtgs (13-01-31; Seoul, 13-04-21; Song-do, 13-07-21; Anaheim, 13-08-26; Sydney) & 5 webconfs. (12-11-21, 12-12-19, 13-01-10, 13-05-07, 13-06-27) had held (⇒**SC 24 N3542** was born) and 1 webconf. 13-10-16) & 1 f2f mtg (13-10-25; Geneva) will be held at present time on 13-09-22.

# What SC 24 is doing: (3/5)

- **SC 24 supports the procedures listed in (11, Res. 2013) for processing of NWIPs.**
- **SC 24 has noticed that 2 standards have been published in area covered by SC 24. These are ISO/PAS 14306:2012 & ISO/PAS 17506:2012. SC 24 request to ascertain why these specifications were not submitted to SC 24 for review and to implement any corrective measures needed to ensure that this problem does not recur. (12, Res. 2013)**
- **SC 24 learnt that SC 29/WG 11 is planning to refactor X3D functionality in MPEG-4. SC 24 request to SC 29 asking that any such activity be conducted in junction with input from SC 24 to ensure that such functionality is compatible with X3D architecture and asking if any functionality for improving compatibility can be made. (13, Res. 2013)**

# Resolutions 11. Processing of NWIPs

**ISO/IEC JTC 1/SC 24 supports following the procedures listed below in the processing of New Work Item Proposals:**

- 1. When a NWIP of an SC is submitted, JTC 1 distributes it to all SCs for review and to check if areas of responsibility are being duplicated.**
- 2. When an SC submits a NWIP whose scope is overlapping with one or more other SCs, JTC 1 decides which SC is appropriate for the NWIP.**
- 3. The SC assigned by JTC 1 will be responsible for the NWIP according to the policies of the SC and JTC 1 including IPR policy.**
- 4. If multiple SCs are assigned, the SCs should develop the standard of the NWIP in cooperation with the other SCs, recommending at least one editor from each SC, and co-publishing with a single integrated document number.**

# What SC 24 is doing: (4/5)

- **US NB notifies SC 24 of completion of RSM as an extension to NSIF profile of BIFF. SC 24 requests SC 24 Secretary to bring this to attention to JTC 1/WG 7. (17, Res. 2013)**
- **SCIT Resolution 4-2013: Large Graphics & JPEG recommended the coordination with SC 29/WG 1 and SC 24/WG 7 is key to large graphics files & JPEG. SC 24 notes SCIT resolution recommends coordination between 2 WGs on JPEG2000 use & commercial application and has endorsed 3 actions (18, Res. 2013) by SC 24/WG 7.**
- **ISO/TC 211/WG 6 invited SC 24/WG 7 to contribute to ISO 19163: GI - Contents components & Encoding rules for imagery & gridded data, associated with 12087-5:1998 - BIFF. SC 24 requests SC 24 Secretary forwards SC 24 N3524: Imagery & gridded data based on 12087-5, NITF & NSIF to ISO/TC 211 for ISO 19163 editor. (19, Res. 2013)**



# What SC 24 is doing: (5/5)

- **SCIT notes work in ISO/TC 171 on Document Management Technologies and requests all ISO member bodies to participate in this work. SC 24 notes SCIT Resolution 8-2013 and will endeavor to identify a suitable liaison to complement liaison being requested by ISO/TC 171 in SC 24 N 3496. (20, Res. 2013)**
- **SC 24 is endeavoring to progress 18026 Edition 3 to FDIS stage by final completion date of 2013-10-20. It is clear this deadline will not be met due to unresolved budget. SC 24 requests JTC 1 to authorize a 12 month extension of the schedule. (23, Res. 2013)**

# Outreach:

## ◆ Articles:

- H. Kimn, “*On the resolutions for SC 24 of JTC 1 JeJu meeting*”, SC 24K meeting, 30 Jan. 2013, Seoul.
- M, Lee, K. Yoo & G. Kim, “*A standard RM for generic sensors and events in mixed & augmented reality*”, & “*Representation & interaction of real characters in ARC RM*”, Korea-Japan Mixed Reality Workshop, 12 April 2013, Okinawa.
- H. Kimn, “*Presentation of ISO/IEC JTC 1/SC 24 to the SCIT meeting*” 18 July 2013, BSI, London

# Challenges:

**SC24 follows developments from its cooperative agreements to build ISO standards from mature consortia recommendations in keeping with JTC 1 objectives:**

- X3D standards and amendments and support NWIPs on ARC (**WG 6**)
- Revisions of SRM, EDCS and SEDRIS associated language binding (**WG 8**)
- Progression of 3 NPs and supports NWIPs on ARC (**WG 9**)

# Market Opportunities:

**Significant opportunities for SC 24 playing major role in standard developments :**

- **Effective data interchange formats with ISO/TC 211 & NATO ⇒ marketing in military, satellite & airborne**
- **Commercial availability based on 12087-5 BIIF ⇒ NW proposed ISO/TC 211**
- **Sensor model standard 19130 (spectral sensing & fusion of imagery) being emerging segment in market ⇒ collaboration with ISO/TC 211**
- **Remote sensing & fusion in non-stationary & hand-held devices ⇒ incorporating metadata into imagery & sensed data files**

# Strategies:

## Strategies to achieve SC 24 missions :

- **Facilitating use & implementation of existing SC 24 standards**
- **Seeking out consortia & organizations following open processes as partners**
- **Working effectively including timeliness & window of market opportunity with technical quality**
- **Maximizing contribution by seeking out new & innovative projects**
- **Continuing to seek ways to cooperate with JTC 1/SCs & ISO/TCs, especially SC 29 & SC 32**

# Issues or Needs:

- **P members without commitment to participate actively**  
⇒ potential risks for balloting NPs or approving resolutions at meetings.
- **Lack of sufficient number of experts & national bodies to continue willingly participation in standardizations development related to very short ICT life cycle.**
- **Lack of support for cooperative development because of partner's change of objectives & directions.**
- **Need to actively expand P-member NBs in South America & Africa.**

# Co-operation & Competition:

**Co-operative Works with other JTC 1/SCs, ISO/TCs & Industry Consortia sharing common objectives within Scope of SC 24 work area:**

Actively with ISO/TC 211, TC 11, JTC 1/WG 7, SC 37, NATO JGISR & NTB, Web3DC, W3C, Open OGC, The Khronos Group, SEDRIS Organization, SISO, IHO, DGIWG, IAU/IAG, NMSG, DICOM, OMG Robotics DTF, etc.

# Collaboration: SC 24 membership to ISO SCIT:

- Imagery Metadata Standards Matrix:  
Common discussion of
  - Intelligent Documents,
  - Imagery Quality initiatives,
  - Embedded Metadata,
  - Content-based Data/Metadata Extraction,  
automating imagery exploitation



# New Directions (1/2)

## Long Term Directions:

- **Developments of ISs describing data from spectral, optical, radar, laser, polar-metric & advanced remote sensors**
- **Applications of standardization metadata in support of data archival, discovery & retrieval**
- **Exploitation capabilities to apply to imagery & remotely sensed data**
- **Developments on Visualization ISs applying of ARC ISs for smart media**

# New Directions (2/2)

## Short Term Directions:

- **Revisions to X3D standards, 19775 & 19776 (WG 6)**
- **Speedy implementations of enhancement & defect corrections to EDCS, 18025 & SRM, 18026 (WG 8)**
- **Progressions of standards on ARC interchange and reference models (WG 9)**

# Future SC 24 Plenary Meetings:

**August 2014 : West Coast, USA**

**2015 : Europe (Germany?)**

**2016 : China**

**2017 : North America (TBD)**

**2018 : Europe (TBD)**

**Thank you for your attention  
& Questions!**