

# Minutes

<b><u>MEETING NAME</u></b>	WG-24 continuity of current work items	
<b><u>MEETING PLACE/DIAL IN</u></b>	Please note the changed virtual conference room. We are now using Zoom.	
	Christian Kücherer invites you to a planned DICOM WG 24-meeting in Zoom.	
<b><u>DATE &amp; TIME</u></b>	<u>Tuesday 2021, Jan. 12. 11:00AM ET: UTC -5:00, Eastern Time (USA&amp;Canada);</u> <u>Duration: 1.0 hrs.</u>	
<b><u>PRESIDING OFFICERS</u></b>	Reutlingen University, Oliver Burgert, Chair	
<b><u>VOTING MEMBERS PRESENT</u></b>	Reutlingen University VISUS Health IT GmbH	Burgert, Oliver Kaemmerer, Marc
<b><u>VOTING MEMBERS ABSENT</u></b>	<i>Company</i> Catts Inc. Philips Suarez Mejias, Cristina Hospital	<i>Person's name</i> Hagar, Mark Medema, Jeroen Virgen del Rocio University
<b><u>OTHERS</u></b>	<i>Company</i> echopixel Advanced Surgical Visualization Consortium VISUS Health IT GmbH Localite GmbH Technical University of Munich ICCAS, University Leipzig	<i>Person's name</i> Ron Schilling Paul E Sovelius Marc Kämmerer Sven Arnold Regine Hartwig Richard Bieck

**DICOM**  
**SECRETARIAT**

Carolyn Hull, Christian Kücherer

## 1 OPENING ITEMS

- Call to order: The meeting was called to order. Staff recorded attendance and confirm if a quorum is present.
- NEMA Antitrust rules and DICOM Patent Policy: Staff was review the Guidelines for Conducting NEMA Meetings.

## 2 REVIEW AND APPROVE AGENDA

The agenda was reviewed. Postpone the topic *DICOM Requirements for interactive mixed reality (IMR)-systems (Ron)* to March 2021.

Topic *Interaction with WG27- Uses Cases for DICOM Web, RESTful communication (Steven Nichols)* was done first, as Jean Claude is coming later for 3D Video topic

## 3 REVIEW MINUTES

The minutes of the previous meeting 2020-12-15 was reviewed and approved.

## 4 TOPIC ITEMS TO BE DISCUSSED

- Welcome of Paul E Sovelius and sort introduction of WG 24 members.
- **Work-item Laparoscopic Cholecystectomy Report**

**ToDo (Oliver):** Ask for contributor via the mailing list and for this work item. **Flavien** will collect the responses and form a sub-group discussing further details. Request to the mailing list has not been done; preparation for next meeting.

- **Interaction with WG27- Uses Cases for DICOM Web, RESTful communication (Steven Nichols)**

<ftp://d9-workgrps@medical.nema.org/medical/private/Dicom/WORKGRPS/Committee/2020/2020-12-04/New-Work-Items/RESTful%203D%20DSC.pptx>

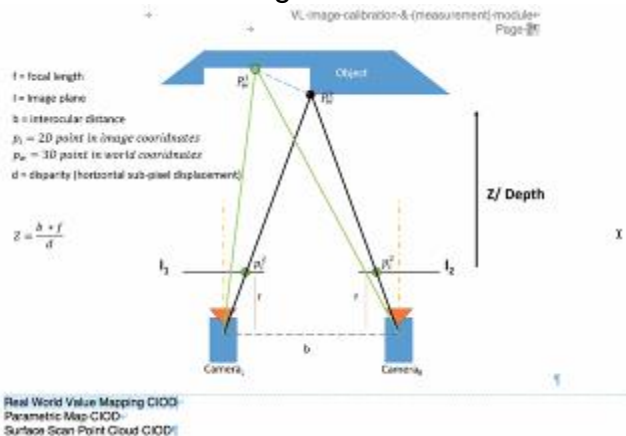
[ftp://d9-workgrps@medical.nema.org/medical/private/Dicom/WORKGRPS/Committee/2020/2020-12-04/New-Work-Items/WG-27\\_NWIP\\_restFu3D\\_RND5.docx](ftp://d9-workgrps@medical.nema.org/medical/private/Dicom/WORKGRPS/Committee/2020/2020-12-04/New-Work-Items/WG-27_NWIP_restFu3D_RND5.docx)

WG-27 will create a supplement to realize 3D visualization over DICOM web. Use cases of the surgical community are highly appreciated; We will invite Steven Nichols to the next WG-24 Meeting. Provide Input for requirements for DICOM Web uses cases. Useful for clinical side for the decision of operations and intraoperative decisions. Current status: Somebody takes a picture with the smartphone camera and transfers it via Whatsapp; There is not the right infrastructure for the exchange of medical images; All big vendors does not show the image interaction. WG-24 can provide several Use cases. Sometimes no dedicated PACS Clients in the OR. Interoperative 3D Imaging (Ron, echopixel). Example: Significantly improve workflow and patient outcome trajectory by 3D images (already distributed to the e-mail list). Brain Surgery cannot be done in 2D space! Pediatric use cases (heart operations) could be interesting for that. Second opinions for surgeons during operation.

- **Report of the work-item proposal 3D Video localization at DSC meeting**

Current status and feedback about the work-item proposal. **TODO (Marc):** Please send the information to the mailing list. Check for feedback and scope of the first supplement(s).

Results of DSC meeting: A calibration module is necessary. Overview: Key



component for Use Cases. Aim: real 3D representation of the surgical scene; no CT data, real-world on stereoscopic images. Calibrate the cameras (all devices like camera, light unit, endoscope, ...). Various camera models are existing, but one quasi-standard is the pinhole camera model.

Input: Think about other models to support. A tag is necessary to describe the camera model in use. Private fields should be avoided. Later extensions (prism, fisheye models) should be possible. What do device developers use for this issue? This should be discussed in WG24. Used in DaVinci system, but not very largely used. These parameters are interesting also in monoscopic systems. A similar approach like for hip implant types could be taken (Oliver). Calibration data must come from different sources before recording of video stream to apply to respective DICOM object. Use a module for the whole video stream, that describes the settings of the used modality (focal length, calibration values). Match to each frame the certain calibration used for time series. Input from endoscope vendors required for that principle. Storing calibration data once and refer to the calibration in the video stream. Annotations for the screen are required, coming from the modality. The stream would refer to the calibration module. Additional attribute with a unique

identifier. Ordered array of calibration modules and use reference. Image series in CT via a UID; Seems to be different. Crucial to receive the exact object, with regard to order and consistency. Thus make object explicit with existing enumerations. Principle is available in DICOM, needs to be evaluated. Tight timeframe for the next DSC meeting in April 2021. Contact Aesculap, Richard Wolf, Karl Storz. Input for the calibration table is necessary from vendors, otherwise that table is useless. Who is the vendor for the software for 3D software measurement calibration? Might be a different System for calibration. Further discussion necessary. Even when the system is distributed in two systems, it can be considered as one system in the end. There is no information on the basic description of photographic camera in the standard. The quality of the calibration system (how good is the measurement system?) is the next step. We should contact the visual light working group (WG-13). Marc sent already an e-mail to that group, but no response. Paul could act as a bridge to the Texas medical center and talk to surgeons and endoscopic manufacturers with a short description of the ideas. We need to officially ask WG-13 for this topic. 3D Point clouds are related to that.

## 5 OLD BUSINESS/NEW BUSINESS

- Consolidation of WG-24 roster: Status finished. Currently (Jan. 2021) 41 active members.
- DICOM Requirements for interactive mixed reality (IMR)-systems (Ron)
- **Landscape of 3D and stereoscopic imaging formats** (Ron Schilling, Leonard Berliner)  
There will be a presentation at the next WG meeting.
- Use Cases for point clouds and JPEG/DICOM Point Cloud Module (David/Oliver)  
Keep in mind for future work
- **Process to become a voting member.** Please see:  
[dicom.nema.org/dicom/handbook/Working\\_Groups/How\\_to\\_Join.doc](https://dicom.nema.org/dicom/handbook/Working_Groups/How_to_Join.doc)
- **Current Mission statement of the Working Group 24**  
Oliver and Christian will compile a first updated version for the next meeting. All other members please check for correctness and completeness.

## 6 DATE AND TIME OF NEXT MEETING

### **The next teleconferences and face to face meetings can be proposed**

Proposal: Fixed term every 2 month telcos; additional appointments on request. Try to keep in-sync with DSC Meeting.

Tue, Feb. 16<sup>th</sup> 2021; 11:00 Eastern Time.  
Tue, Mar. 16<sup>th</sup> 2021, 11:00 Eastern Time (optional, DSC/WG-6 Meeting in March 22. 2021)  
Tue, April 13<sup>th</sup> 2021, 11:00 Eastern Time  
Tue, June 15<sup>th</sup> 2021, 11:00 Eastern Time or at CARS Conference: June 21.-25. 2021-  
Workshop slot requested.  
<Summer vacation: August-September>  
Tue, October 12<sup>th</sup> 2021, 11:00 Eastern Time  
Tue, December 14<sup>th</sup> 2021, 11:00 Eastern Time

**7 ADJOURN: at 12:45 ET.**

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SUBMITTED BY Enter submitter.

SUBMITTED ON 2/1/2021

LEGAL APPROVAL Enter approval date.

UPLOAD LOCATION Enter upload location.