**IEEE P4001 Working Group**

**Meeting #37 Minutes V00 -** Tuesday 28 September 2022 from 15:00 to 16:00

**Virtual Zoom Meeting**

<https://labsphere.zoom.us/j/85617960909?pwd=Mkh3ZWhEV01hY3dIeXRHSlh5U0RMQT09>

1. Call to Order
   1. Introduction and Affiliation Declarations
      1. Roll call of Individuals
   2. Establishment of Quorum – (32) attendees, Quorum achieved.
   3. Policing of membership (CD)
      1. Members Status Review - 41 voting members
         1. Reminder that membership is closing as of December.
2. Approval of Agenda
   1. Agenda Review for Meeting #37 – Motion to approve by Alex Fong, Seconded by Kwok Wong
   2. Approval of minutes for meeting #36 – Motion to approve by Oliver Weatherbee, Seconded by Alex Fong,
3. IEEE Patent & Copyright Policies
   1. Call for Patents
   2. Copyright Policy

1. Moving towards the Standards Document
   1. Main Points for Review – See the slides
      1. <https://docs.google.com/document/d/1S8ktuPBAJBhW5_uAJ0MyMInFyzIR3j2USIqPWWwp_60/edit#>
      2. Reviewed the main document and tables (Annex for specifications and Meta Data)
         1. Barbara Eckstein:
            1. Comment Regarding the requirements for testing, Can the requirements be linked to camera capabilities in terms of the spectral analyses that the camera's output can support? For example, absolute radiometric calibrated pixels, spectral smile correction, error estimates on results, etc.?
         2. Andrei Fridman: Repeating past comment
            1. Cheaper cameras can still “hide” behind some of these specification by emphasis on one spec versus another.
            2. Action: Discuss the ways that camera “hiding” can be avoided – bring up at Testing group meeting
         3. Siri Jodha Khalsa: Complete specification of the meta data can help with this
         4. Melina Zempila: It depends on the depth the users want to go…going too deep may not be useful to all users or imply future irrelevance. I agree that my suggestion could be a "rabbit hole", which should be avoided. I think that Siri Jodha's suggestion of tiers of conformance is excellent, and it is a valuable method to categorize camera capability. I simply feel that the camera characteristics provided by a manufacturer should be linked to what one can do with that camera, since I think many people trying to choose a camera will not have the in-depth knowledge to easily determine capabilities based on camera specs.
            1. Action: Keeping a registry of future relevance for on-going editing of this standard.
         5. Andrei: In the current version of the standard the data is address and resampling may not be indicated (by intention). Data values should be represented with a typical value and a tolerance (+/-) – applied to all cameras (independent of resampling).
            1. Action: Comments were made to the standard and there was general agreement on this point to include these inputs.
         6. Ray Soffer: EMVA-1288 standard is referenced often. Should the relevance of the EMVA to the standard be discussed in the opening of the document.
            1. Action: This paragraph should be included and agreed by EMVA
         7. Andrei: Along and Cross track references should be cleared up. Original C1 vs. dictionary definitions.
            1. Action: This may be a topic that needs to be brought to a vote for clarity and finalization.
         8. Andrei: Typical vs. Guaranteed case specs scenarios on specifications. Worst case value should be given and this is spelled out in the document. Perception of “worse that typical” is a negative to customers.
            1. What do manufacturer’s want: Typical and Guaranteed (drop “worst case” as language). Guaranteed should be mandatory and typical is option for manufacturers to decide if they want to give that.
            2. Alex Fong: Agreed.
            3. Ray Soffer:

Action: Clear paragraph on these terms and definitions.

* + 1. The above comments and actions will be recorded in the standard draft so that the review team may address these in the document formation.
  1. Threshold Values: This was an internal slides and discussions were deferred.
  2. Unresolved Points: Deferred for discussion on the Friday meetings.
  3. Next steps: Deferred for discussion on the Friday meetings.

1. Testing Groups. – Re-start
   1. Meetings will restart on Fridays. Starting this Friday 9/30 0930-1100 EDT
      1. <https://labsphere.zoom.us/j/87074451721?pwd=a0ZkMS80VmpCTzBwZG1haDRqTXJvUT09>
2. Outreach
   1. Hold a meeting at Photonics West week: San Francisco Jan 28-Feb 2
      1. SJS – working on comments is very important to the standard validation and balloting process so he is encouraging P4001 to present him with a budget ASAP to enable this vital discussion.
      2. Action: Chris will pull together a budget and plan with Torbjorn and John to present to GRSS ASAP and to the P4001 group by the next groupmeeting.
3. Leadership Elections
   1. Call for to re-install incumbent officers for 2022-2023.
      1. Motion by Barbara Eckstein, Seconded by Alex Fong.
   2. No opposition to current leadership was recorded.
   3. Current leadership under John, Torbjorn and Chris is re-instated as of this meeting (9/28/22)
4. AOB / Unfinished Business
   1. Next Meeting is **Tuesday, November 1, 2022.**
      1. Action: Chris to put out the call for the meeting.
5. Adjourn General Meeting
   1. Motion by Kwok Wong, Seconded by Andrei Fridman.
6. Meeting closed.

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