

**IEEE P2520.2.1**  
**Machine Olfaction Devices and Systems used for General Outdoor Odor**  
**Monitoring**

(SEN/SC/TMODS/OOM/2520.2.1)

Working Group Meeting Minutes  
11 October 2021 / 10:00 AM – 12:00 PM (ET)  
WG Vice-Chair: Ehsan Danesh  
WG Secretary: Cynthia Burham

**1. Call to Order**

The Chair called the meeting to order at 10:01 AM ET. He also announced that the meeting was being recorded for the purpose of preparing minutes.

**2. Roll Call and Disclosure of Affiliation**

*Affiliation FAQs:* <http://standards.ieee.org/faqs/affiliation.html>

The Chair directed participants to a Google Docs link in the Chat window:

[https://docs.google.com/spreadsheets/d/1ydvTFKxRSYRrpT1CX-22zaNkETV4\\_aqD2NDVSoxxfk8/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1ydvTFKxRSYRrpT1CX-22zaNkETV4_aqD2NDVSoxxfk8/edit?usp=sharing)

Participants were asked to sign-in by placing an 'X' in the spreadsheet at the intersection between the column including their name and the column indicating the meeting date and provided a few minutes to update the spreadsheet. The Secretary added the attendance status of participants who did not complete their attendance status directly.

The participant information from the Google registration form and in the WebEx Participants List has been merged and may be found in **Attachment A**.

**3. Agenda and Previous Meeting Minutes Approved**

The Chair displayed the announced agenda and, after ensuring that a quorum had been achieved, moved to approve the meeting agenda and the minutes for both the July and the September WG meetings. The Meeting agenda was approved without objection to unanimous consent. The number of voting members in attendance required for quorum was 19. There were 19 voting members in attendance when approval was requested.

#### 4. IEEE Patent & Copyright Policies

##### a. Call for Patents

<https://development.standards.ieee.org/myproject/Public/mytools/mob/slide/set.pdf>

Per standard IEEE-SA WG meeting practice, the Chair reviewed the required policy regarding potentially essential patents. No one raised concerns for consideration.

##### b. Copyright Policy

<https://standards.ieee.org/ipr/copyright-materials.html>

Per standard IEEE-SA WG meeting practice, the Chair reviewed the required policy regarding copyrights. There were no questions or concerns.

#### 5. Technical Presentation(s) and Discussion

##### a. *Presentation*

There was no presentation scheduled for the October 2021 WG meeting.

##### b. *General discussion:*

The group entered a general discussion period after approval of the meeting agenda and the previous meeting minutes. The discussion included review for approval of the draft outline and Table of Contents for the standard. Participants were asked for input and minor corrections were made based on participant comments. Corrections included renumbering elements to reflect appropriate order. The Chair made clear that approval of the draft Table of Contents was intended to set a direction for Standard development and might still be amended as the WG moved forward with the Standard. The document is expected to be completed one year after approval. The Chair indicated a completion date of August 2022. Upon approval, the Chair indicated that a request would be made during future meetings for volunteers to work on the various sections of the Standard. An invitation was made to participants to visit the WG website to review materials and upload additional materials. The Table of Contents was approved by unanimous consent.

The Chair indicated that many of the introductory sections of the Standard would be completed based on the goals and definitions of our parent WG. A question was raised regarding definitions and goals and overlap with work being conducted in the

EU. While some overlap is to be expected, the Chair clarified that the Standard will be independent of other work in the area. Mention was made that related work in the EU has come to a halt due to funding issues and a point was made that the WG may be able to use or otherwise build on the elements of that work that may be relevant. The possibility will be investigated.

A discussion was held regarding the technical issues and challenges existing in Odour reconstitution (definition and creation). Issues involved in manufacturing complex odours such as those emanating from landfills and animal farms were presented. A discussion ensued regarding whether and which odour elements might be included in a simplified, but relevant, baseline sample representative of these more complex odours. Participants discussed whether the baseline should be simple and very basic, more complex, or designed to begin with a few (up to 3) basic odours and designed to incorporate more complexity depending on the user's needs. A table designed to capture odours based on any of the aforementioned schemes was mentioned as the most convenient method to present odours. Whether the test protocol should be about testing or materials was discussed. The feasibility of a multi-channel generator that might be tuned for a particular odour configuration was discussed.

Additional discussion regarding the differences between lab and in-situ analysis were discussed. Conditions such as temperature and other environmental conditions which may affect in-situ testing were mentioned and the difficulty of capturing these elements and reproducing them in the lab were presented. It was mentioned that the Standard should be effective for both types of testing.

Odour manufacture was discussed in detail and participants indicated a need to identify experts in the field who may be able to assist the WG in defining and creating synthetic odours. Participants indicated that an effort would be made to identify and contact such experts for their advice and to speak at future WG meetings. Participants indicated that manufacturers may be able to procure funding from governments and other sources interested in identifying and addressing outdoor odour monitoring to investigate the issue and assist in designing test odours. The viability of a 'test kit' produced by a manufacturer was discussed.

Issues related to odour sourcing were mentioned and how to best develop an odour using the headspace above a liquid source was discussed. The stability and longevity of reconstituted odour samples stored in canisters was mentioned as an important element for consideration.

## **6. Agenda and Previous Meeting Minutes Approved**

The Meeting agenda and the minutes for the meetings on July 12, 2021 and September 13, 2021 were approved without objection to unanimous consent after quorum was achieved. The number of voting members in attendance required for quorum was 19. There were 19 voting members in attendance.

## **7. Unfinished Business/Action Item Review**

The Chair has requested that experts be identified and contacted who might be able to assist in synthetic odour development and identification. The WG should investigate and any sources which may be able to manufacture synthetic versions of the related odours for test.

## **8. New Business**

There was no new business.

## **9. Future Meetings**

The next meeting of the WG will take place at 10 AM ET on November 8, 2021. It will immediately precede the P2520.3.1 WG meeting. An attempt will be made to keep both meetings to one hour in length although one or both meetings may be longer than one hour in order to ensure all relevant points within the agenda are addressed.

## **10. Adjourn**

The Chair asked for a motion to adjourn. Said motion was made and seconded. The Chair adjourned the meeting at 11:05 AM ET.

**Attachment A: Meeting Participants (28)**

<b>Last Name</b>	<b>First Name</b>	<b>Affiliation</b>
Sagar	A S M Sharifuzzaman	Sejong university, South Korea
Schiffman	Susan	North Carolina State University
Nagle	Troy	ECE, NC State University
Burham	Cynthia	University of Texas at Austin
Covington	James	Professor, School of Engineering, University of Warwick
Saffell	John	Alphasense Ltd.
WONG	KO CHUNG	Oxford Technology /FRSA
Carneiro	Magnovaldo	Self
Reimringer	Wolfhard	3S - Sensors, Signal Processing, Systems GmbH
Bernardini	Sandrine	Aix-Marseille University
De Vito	Saverio	ENEA - Agency for New Technology, Energy and Sustainable Economic Environment
Palma	Susana	NOVA university of Lisbon
Subramaniam	Ravi	IEEE (Conformity Assessment)
Izquierdo	Cyntia	Olores.org website
Potyrailo	Radislav	GE Research
Staerz	Anna F	Massachusetts Institute of Technology (not first meeting)
Peaslee	David	SPEC Sensors, LLC
Massera	Ettore	ENEA
Li	HY	Huazhong University of Science and Technology
Danesh	Ehsan	Alphasense Ltd
Capelli	Laura	politecnico di milano
Majewski	Leszek	The University of Manchester
Petrache	Ana	BEIA Consult
Isz	Sandrine	Alpha MOS
Chen	Allen (Cheng-Jen)	Self
Suciu (Jr)	George	BEIA-Ro
Romain	Anne-Claude	University of Liege
Sabry	Yasser	Faculty of Engineering, Ain Shams University