

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
12 December 2022 / 10:00 AM – 11:00 AM (ET)
WG Chair: Ehsan Danesh
WG Secretary: Troy Nagle (substituting)

1. Call to Order

The Chair called the meeting to order at 10:05 AM ET. The Chair 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/1ydvTFKxRSYRpT1CX-22zaNkETV4_aqD2NDVSoxxfk8/edit?usp=sharing

Participants were asked to register for the meeting by placing an X at the intersection between the row including their name and the column including the meeting date. First-time participants and individuals whose information was not already listed within the Google document were instructed to include their name, affiliation and status under the appropriate columns at the bottom of the Google form. The Chair advised participants that member status is contingent upon provision of all required information, any missing information having been highlighted (yellow) in the Google document for participant's convenience. Participants were also asked to include their affiliations in parentheses after their name in the Chat window, if using the chat area. A few minutes were allowed for participants to access and complete the sign-in process. The Chair added the attendance status of participants who did not complete their attendance status directly.

At least two (2) of the most recent four (4) WG meetings must be attended in order to maintain voting rights.

The participant information from the chat window and from the participant registration document has been merged and may be found in **Attachment A**.

3. **Approval of Agenda and Previous Meeting Minutes**

The Chair displayed the announced agenda. Fifteen of the 30 voting members were attending. Since a quorum was not met, the agenda was not officially adopted. Minutes of prior meetings were not approved.

4. **IEEE Patent & Copyright Policies**

a. **Call for Patents**

<https://development.standards.ieee.org/myproject/Public/mytools/mob/sli/deset.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**

The Chair introduced the presenter for the November 14th 2022 WG Meeting.

a. ***Presentation by Anne-Claude Romain***

Anne-Claude Romain was unable to attend the meeting. She will be invited to present at a future session.

b. ***General Discussion:***

The Chair continued our discussion of uncertainty of odor measurements. He showed the slide with a formula for calculating “expanded uncertainty”, adapted from CEN/TS 17660-1:2021, originally developed for low-cost gas sensors. The Chair suggested that a similar equation can be used to estimated uncertainty of odor intensity measurements by an e-nose, provided that the prerequisites are met:

1. The equation assumes a linear relationship between measured values (by e-nose) and reference values (by human panel). The measured values can be a transformation of the raw e-nose data (eg, in log scale). The units of measurement (odor unit) might be different between human panel and e-nose.
2. The human panel response is assumed to be the best estimation of the true values.
3. RSS is assumed to be constant over the measurement range.
4. When multiple e-noses are deployed, $u(bs,s)$ can be added to RSS to represent the between e-noses standard uncertainty.

5. $u(\text{bs}, \text{RM})$, the between reference method standard uncertainty, shall be subtracted from the RSS.
6. A suitable coverage factor (k) is selected taking into account the number of experimental results, and assuming a normal distribution.

6. Unfinished Business/Action Item Review

There was no unfinished business.

7. New Business

There was no new business.

8. Future Meetings

The next meeting of the WG was scheduled to occur at 10 AM ET on February 13, 2022.

- Invited Speaker: Stéphane Cariou (IMT Mines Alès), “The relationship between odor and physicochemical data”

9. Adjourn

The WG Chair adjourned the meeting at 10:32 AM ET.

Attachment A: Meeting Participants (19)

Last Name	First Name	Affiliation
Chen	Allen C	Self
Covington	James	Univ. of Warwick
Danesh	Ehsan	Adsentec Ltd
De Vito	Saverio	ENEA - Agency for New Technology, Energy and Sustainable Economic Environment
Deshmukh	Sharvari	Visvesvaraya National Institute of Technology
Gibson	Nigel	?
Guillot	Jean-Michel	IMT Mines Ales
Herrier	Cyril	Aryballe
Isz	Sandrine	Alpha MOS
Izquierdo	Cyntia	Olores.org website
Kavirayani	Srikanth	?
Loubet	Francois	Ellona
Manikandan	M Sabarimalai	Indian Institute of Technology Bhubaneswar
Mendoza	Javier	?
Mønster	Jacob	FORCE Technology
Mulla	Mohammad Yusuf	Research Institutes of Sweden (RISE)
Nagle	Troy	ECE, NC State University
Saffell	John	NosmoTech Ltd.
Schiffman	Susan	North Carolina State University