



NOTE BY THE DIRECTOR-GENERAL

**RESPONSE TO THE REPORT OF THE THIRTY-SIXTH SESSION
OF THE SCIENTIFIC ADVISORY BOARD**

1. This Note presents the Director-General's comments on the report of the Thirty-Sixth Session of the Scientific Advisory Board (SAB) (SAB-36/1, dated 29 September 2022) and its ongoing work.
2. The year 2023 will serve as an important turning point for the OPCW. The Organisation will hold its Fifth Conference of the States Parties to Review the Operation of the Chemical Weapons Convention (hereinafter "Fifth Review Conference"), the new state-of-the-art Centre for Chemistry and Technology (ChemTech Centre) will open, and the last possessor State Party to the Chemical Weapons Convention (hereinafter "the Convention") will complete destruction of its declared stockpile. There is an opportunity to use these important milestones to plot the path of the OPCW and the Technical Secretariat (hereinafter "the Secretariat") to continue its mission to help free the world of chemical weapons. Science and technology will continue to play an important role in the implementation of the Convention and in the Secretariat's efforts. The work of the OPCW's SAB is important to ensuring that the Director-General, the Secretariat, and ultimately the States Parties are kept apprised of key developments in science and technology relevant to the Convention. The SAB's advice is instrumental in the policy decision-making process, both inside and outside the Organisation.
3. The SAB continues to demonstrate its professionalism and dedication to providing sound, objective advice on developments in science and technology relevant to the Convention. The Board's report on developments in science and technology for the Fifth Review Conference is highly anticipated and will help provide a scientific and technical basis for discussions at the Fifth Review Conference.

**RESPONSE TO THE REPORT OF THE THIRTY-SIXTH SESSION OF THE
SCIENTIFIC ADVISORY BOARD (PARAGRAPHS 5.1 TO 5.4 OF SAB-36/1)**

4. The SAB met for its Thirty-Sixth Session from 26 to 29 September 2022 at the OPCW Headquarters in The Hague, the Netherlands. The session was chaired by Mr Günter Povoden, with Dr Andrea Leisewitz serving as Vice-Chairperson. The report of the session was issued under the symbol SAB-36/1.
5. In his opening remarks, the Director-General, H.E. Fernando Arias, welcomed all the participants in the session, including the Board members joining virtually.



6. The Director-General updated the Board on the status of the ChemTech Centre and its future programming and activities. He thanked the Board for its ongoing advice related to scientific activities that could be held in the ChemTech Centre and invited the Board to take a tour of the Centre during its session.
7. The Director-General also highlighted the importance of the Board's ongoing work, in particular the ongoing Temporary Working Group (TWG) on the Analysis of Biotoxins and its final efforts to prepare its scientific report to the Fifth Review Conference. He reiterated the importance of the Board's scientific report, as it is essential that the Secretariat and States Parties be made fully aware of the recent developments in science and technology.

CHEMICAL FORENSICS AND OTHER CONVENTION-RELEVANT RESEARCH BEING CONDUCTED AT VERIFIN AND FOI (PARAGRAPHS 7.1 TO 7.8, PARAGRAPHS 13.1 TO 13.4, AND PARAGRAPHS 14.1 TO 14.5 OF SAB-36/1)

8. The growing field of chemical forensics is of great interest to the OPCW. Any investigation of the alleged use of a chemical weapon may require analysis that needs to go further than just the detection and identification of scheduled chemicals. For example, chemical forensics may provide information about which specific precursors were used in the synthesis of a chemical weapons agent, or whether samples taken from different chemical weapons attacks could be linked to the same perpetrator. The work being done by the research teams of Prof Paula Vanninen at VERIFIN and Dr Crister Åstot at the Swedish Defence Research Agency (FOI) is both impressive and important, especially as both of these laboratories are part of the OPCW's designated laboratory network. The Director-General appreciates the ongoing research in this area being done by designated laboratories and others in the research community. It both complements other work being done within the Secretariat, and provides an opportunity for further cooperation and collaboration in this increasingly relevant field under the auspice of the new ChemTech Centre. The Director-General notes that chemical forensics is one new activity at the Centre that the Secretariat is prioritising. Facilitating further research results and promoting additional discussion in this field of research will also be needed, and the ChemTech Centre may be an option as a venue to host workshops or other meetings in this regard. The Director-General asks that the SAB continue to monitor this field closely and stay apprised of any relevant developments.
9. The designated laboratories are trusted partners and a significant resource for the OPCW. They provide expert analysis for the Organisation's verification and mission-related work. In addition, they have the scientific expertise and mandate to pursue research activities that inform and augment the Organisation's analysis capabilities. The Director-General values all the different work related to chemical weapons that the designated laboratories are conducting. The myriad of quality research being conducted by VERIFIN, presented by Prof Vanninen, is impressive. The Director-General hopes that designated laboratories will continue to share their research results, either directly with the Secretariat or via peer-reviewed publications, as appropriate, so that the Organisation and all States Parties can benefit from their good work and useful results. In addition, the Director-General notes the opportunity for designated laboratories to further partner with the OPCW at the ChemTech Centre, via the OPCW Laboratory, on research areas of mutual interest.

INSECTS AS ENVIRONMENTAL SAMPLERS (PARAGRAPHS 12.1 TO 12.8 OF SAB-36/1)

10. It is essential that the OPCW continue to monitor new approaches that improve the capabilities of the Secretariat. These may be incremental—but nonetheless important—advances in analytical instrumentation or methods, and should also include exploratory and creative approaches. The work of Prof Christine Picard and her research group falls into the latter category. Her team’s research into using blow flies as sampling methods to determine the presence of chemical warfare agent simulants in specific locations is intriguing. The potential for using insects to sample the environment could prove useful in investigations of alleged use where a particular area may not be accessible for sampling. Likewise, insects—depending on the persistence of ingested chemicals and/or degradation products in their guts—may provide information related to a chemical weapon attack in the recent past. This may prove useful when the toxic chemical in question is volatile or is no longer present in the environment.
11. The Director-General values the work of Prof Picard’s research team and others in seeking creative approaches to strengthening the capabilities available to conduct successful sampling and analysis of chemical weapons-related investigations. He asks the Board to continue to hear from external experts who bring innovative ideas to the table.

UPDATES FROM THE OPCW TECHNICAL SECRETARIAT (PARAGRAPH 6, PARAGRAPHS 8.1 TO 8.8, PARAGRAPHS 10.1 TO 10.4, PARAGRAPHS 15.1 TO 15.7, PARAGRAPHS 18.1 TO 18.3, AND PARAGRAPHS 19.1 TO 19.3 OF SAB-36/1)

12. The SAB needs to maintain a dialogue with both external experts and Secretariat staff in order to provide meaningful and relevant advice. The Director-General appreciates the efforts of the Secretariat staff members who gave presentations to the Board, and highlights the necessity for continued conversation where appropriate. The SAB sessions are an excellent opportunity for the Board to gain a more complete picture of the work of the Secretariat, and for Secretariat staff to receive feedback from the Board on matters of science and technology.
13. The Director-General also acknowledges the continued contribution of Board members engaged in various Secretariat activities. In particular, the SAB has provided important support to certain programmes within the International Cooperation and Assistance Division. These relationships should continue to be strengthened and supported.

UPDATES ON THE WORK OF THE BOARD (PARAGRAPHS 9.1 TO 9.3, PARAGRAPHS 16.1 TO 16.5, PARAGRAPH 17, PARAGRAPHS 20.1 AND 20.2, AND PARAGRAPH 21 OF SAB-36/1)

14. The year 2022 was a very busy one for the Board. It convened three sessions, ran an ongoing TWG on the Analysis of Biotoxins, held several topical workshops, and worked tirelessly to finalise its report to the Fifth Review Conference. The Director-General acknowledges the Board’s dedication and applauds the efforts it has made to ensure the Organisation has a complete understanding of advances in science and technology.
15. The TWG on the Analysis of Biotoxins is rapidly making progress towards the end of its mandate and is therefore starting to prepare its end-of-mandate report. The Director-General looks forward to this report and the recommendations therein, which

will help him and the Organisation develop the next steps to ensure that the OPCW remains fit for purpose in relation to any investigation into the alleged use of a biotoxin. Additionally, it will provide guidance on how to strengthen the existing relationship with the United Nations Secretary-General's mechanism in the area of biotoxins. Once operational, the Director-General notes that the use of the ChemTech Centre could be considered to further enhance the Secretariat's capability in biotoxin analysis.

16. Topical workshops provide an opportunity to take a deeper look at an area of science or technology that is of relevance to the work of the Organisation. The Director-General appreciates the leadership taken by Board members Prof Ahmed Saeed, Dr Renate Becker-Arnold, and Prof Syeda Sultana Razia in convening the workshop on artificial intelligence-assisted chemistry and the workshop on emerging scientific trends and directions in the chemical industry. The Director-General wishes to thank them, the International Union of Pure and Applied Chemistry, and the OPCW's chemical industry partners, who both partnered with the SAB on these workshops, for their efforts to make these workshops a success. Both of the workshops and the ongoing work of the TWG are funded by the European Union.
17. The Director-General agrees with the SAB that a workshop on emerging technologies would be both timely and useful. There have been a number of developments in science and technology that impact the Convention and the Organisation, as well as the ability of States Parties to implement the provisions set out in the Convention. Many of these have been highlighted by the SAB over the years. Yet new developments continue to emerge at a rapid pace, and the increased convergence of the sciences and engineering disciplines requires careful consideration. The Director-General asks that the Secretary to the SAB determine how the Secretariat can best support the SAB in organising a workshop in this area.
18. The Director-General thanks Mr Günter Povoden, Chairperson of the SAB, and Dr Andrea Leisewitz, Vice-Chairperson of the SAB, for their leadership of the Board in 2022. As this was the last SAB session of 2022, the Director-General congratulates Mr Günter Povoden on his re-election as Chairperson and Dr Andrea Leisewitz on her re-election as Vice-Chairperson of the SAB for 2023. Additionally, the Director-General thanks Dr Renate-Becker Arnold and Prof Ahmed Saeed for their tenure on the Board over the past six years.
19. Lastly, the Director-General expresses his thanks to all States Parties, organisations, and institutions that have financially assisted the work of the SAB.