Conference of the Parties to the
Minamata Convention on Mercury
Fifth meeting
Geneva, 30 October–3 November 2023
Item 4 (n) of the provisional agenda *

Matters for consideration or action by the
Conference of the Parties: knowledge management

Knowledge management and digitalization to support parties to the
Minamata Convention on Mercury

Note by the secretariat

I. Introduction

1. Paragraph 1 of article 17 of the Minamata Convention on Mercury states that each party is to facilitate the exchange of scientific, technical, economic and legal information concerning mercury and mercury compounds, including toxicological, ecotoxicological and safety information; information on the reduction or elimination of the production, use, trade, emissions and releases of mercury and its compounds; information on technically and economically viable alternatives to mercury-added products, manufacturing processes in which mercury or mercury compounds are used, and activities and processes that emit or release mercury or mercury compounds, including information on the health and environmental risks and economic and social costs and benefits of such alternatives; and epidemiological information concerning health impacts associated with exposure to mercury and mercury compounds, in close cooperation with the World Health Organization and other relevant organizations, as appropriate.

2. Paragraph 3 of article 17 states that the secretariat of the Minamata Convention is to facilitate cooperation in the exchange of information referred to the article, as well as with relevant organizations, including the secretariats of multilateral environmental agreements and other international initiatives, and that, in addition to information from parties, that information is to include information from intergovernmental and nongovernmental organizations with expertise in the area of mercury, and from national and international institutions with such expertise.

3. Furthermore, paragraph 2 (d) of article 24 specifies that one of the functions of the secretariat is to assist parties in the exchange of information related to the implementation of the Convention.

4. At its fourth meeting, the Conference of the Parties approved funding for activities to be developed in line with a digital strategy under the programme of work and budget of the secretariat for the biennium 2022–2023.1

* UNEP/MC/COP.5/1.
1 See decisions MC-4/2 and MC-4/13.
5. The present note provides an overview of the work the secretariat has undertaken in the area of knowledge management and digitalization, which is further detailed in UNEP/MC/COP.5/INF/26. Annex I to the present note presents, for consideration, a digital strategy with a midterm vision to guide the work of the secretariat, and annex II sets out a draft decision on the matter.

II. Implementation

6. Strengthened knowledge management, effective information exchange and accelerated digitization processes can be seen as agents of change for achieving the Sustainable Development Goals within the eight years remaining for the implementation of the 2030 Agenda for Sustainable Development. The Minamata Convention contributes directly and indirectly to achieving many of the Sustainable Development Goals, including Goals 3, 12, 14 and 17. In order to make use of evolving digital tools and related best practices, the secretariat has developed a digital strategy to spur progress towards the objective of the Convention and support the parties efficiently.

7. Over the past four years, various strategies have been prepared within the United Nations, including by the United Nations Environment Programme (UNEP), which served as models for the secretariat in designing its digital strategy:

(a) The Secretary-General’s data strategy focuses on harnessing the power of data to support decision-making and advance the Sustainable Development Goals while ensuring responsible and ethical data use, privacy protection, and innovation in data governance.

(b) The Secretary-General’s Road Map for Digital Cooperation (A/74/821) emphasizes the need for multi-stakeholder collaboration, bridging of digital divides, online safety, and alignment of emerging technologies with human values.

(c) Similarly, UNEP is committed to leveraging digital technology as part of its medium-term strategy for 2022–2025 to address climate change, biodiversity loss and pollution. This includes the digital transformation subprogramme, which aims to accelerate progress in environmental sustainability and economic circularity through the use of digital products and services.

(d) In its resolution 4/23, the United Nations Environment Assembly requested the Executive Director of UNEP to further develop and prioritize a long-term data strategy, in consultation with secretariats of multilateral environmental agreements and other relevant stakeholders, and welcomed the latter to engage in the development of the strategy and their sharing of appropriate, credible and quality-assured data and information resources to support the environmental dimension of sustainable development assessment processes, to be accessible through a UNEP platform.

8. The secretariat has made progress in knowledge management and digitalization since the Convention entered into force. A new website was launched in 2020 with improved accessibility and a data-driven approach, providing updated information on relevant topics and integrating data visualizations for national reporting and party profiles. The new website is also interoperable with the United Nations Information Portal on Multilateral Environmental Agreements (InforMEA).

9. In 2021, the secretariat developed an online reporting tool for national reporting, offering personalized credentials, prefilled and conditional questions and real-time data on reporting performance. The secretariat has embarked on other data visualization initiatives in the area of capacity-building and technical assistance through retooling of the project database and the creation of dashboards. It has also established a digital ecosystem for efficient delivery of the meetings of the Conference of Parties through online platforms and forums and online support for participants.

10. The secretariat has expanded its collaboration with the InforMEA initiative and with secretariats of other multilateral environmental agreements. InforMEA is hosted by UNEP and funded by the European Union. Through communities of practice, InforMEA and secretariats of multilateral environmental agreements have been sharing experiences, exchanging information, defining standards and developing tools and interfaces for automated data exchange. Currently, the secretariat plans to collaborate with UNEP and its InforMEA partners on a comprehensive digital transformation and advocacy for reliable digital solutions for sustainable development.

11. At its fourth meeting, the Conference of the Parties approved funding for activities to be developed in line with a digital strategy under the programme of work and budget of the secretariat for the biennium 2022–2023. Following the adoption of decision MC-4/2, the secretariat improved the

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Convention website and created a digital ecosystem to ensure that the second part of the fourth meeting of the Conference of Parties could be delivered efficiently and effectively, even under complex and ever-changing conditions. Budgetary resources were also approved for the development of a digital repository of publications and other information resources based on reliable scientific data on mercury research, and the secretariat designed a road map for the process. A more detailed description of the activities carried out by the secretariat in the intersessional period and those in the pipeline is presented in document UNEP/MC/COP.5/INF/26.

12. The proposed digital strategy presented in annex I focuses on expanding and strengthening the digital ecosystem, building partnerships and enhancing governance and innovation. It is aimed at guiding the work of the secretariat in the medium term, emphasizing the importance of leveraging technology and managing knowledge effectively in order to protect human health and the environment from mercury. By implementing this digital strategy, the secretariat can optimize its resources, enhance operational efficiency and capitalize on existing solutions. The strategy aligns with broader initiatives such as the digital transformation subprogramme of the UNEP medium-term strategy for 2022–2025, Environment Assembly resolution 4/23 and the Secretary-General’s data strategy and Road Map for Digital Cooperation. The secretariat will conduct regular reviews of the strategy to keep it relevant and effective.

13. In preparation for the 2024–2025 biennium, activity 10 of the proposed programme of work and budget for the biennium 2024-2025, on digital presence, aims to start the implementation of the digital strategy by maintaining and scaling the website and the main platform of the digital ecosystem. That includes adding data visualization, retooling the projects database and expanding party profiles. In addition, activities will be carried out to establish the digital repository for scientific information on mercury. Party submissions to the secretariat, such as the nomination of national focal points, will be digitized using the lessons learned from the online reporting tool. Other initiatives that will be implemented include development of a Convention taxonomy to improve the semantic relationships between different elements of the website, development of an information exchange platform, and further development of online meetings and learning opportunities to support parties in implementing the Convention. Some of the proposed activities are expected to be funded by the special trust fund and as such are tagged as “subject to the availability of resources” in the proposed programme of work.

III. Suggested action by the Conference of the Parties

14. The Conference of the Parties may wish to consider and adopt a decision along the lines of the draft decision set out in annex II.

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Annex I

Digital strategy for the Minamata Convention on Mercury

1. A digital strategy is crucial in enabling the secretariat of the Minamata Convention to organize and direct its efforts to leverage technology and manage knowledge effectively, in order to achieve the Convention’s objective of protecting human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. As the volume of information grows, harnessing technological advancements becomes vital for streamlining knowledge management processes. A digital strategy will help the secretariat to optimize its limited resources and direct them towards activities that yield the most significant impact. It will also empower the secretariat to harness shared experiences and capitalize on existing solutions, thereby enhancing operational efficiency and efficacy.

2. While technology can assist in knowledge management, it is not the main driver of action. The foundation of knowledge management lies in people who generate and share knowledge aligned with the organization’s goals, with technology providing the tools that facilitate the process. A long-term vision is necessary to make digital solutions a catalytic force for change and progress and to ensure that our systems and work processes are appropriate and future-proof and enable the use of data and knowledge.

3. This digital strategy was developed in 2023 and presented to the fifth meeting of the Conference of the Parties. It seeks to maintain and accelerate the momentum that has already been generated within the Minamata Convention secretariat and among its partners to enhance and strengthen its digital and knowledge management ecosystem. Many of the elements of the strategy are already in development, but it is necessary to continue developing them, along with new capacities, applying integrated digital approaches to generate a multiplier effect in supporting the parties to the Convention.

4. This strategy is in line with the digital transformation subprogramme of the United Nations Environmental Programme’s medium-term strategy for 2022–2025, which aims to use digital products and services to accelerate progress in key areas critical to environmental sustainability; with Environment Assembly resolution 4/23, which seeks to develop a long-term data strategy in consultation with the secretariats of multilateral environmental agreements and take into account their credible and quality-assured data and information resources; with the Secretary-General’s data strategy, which envisions building a whole-of-United-Nations ecosystem that unlocks the full potential of data, for better decisions and stronger support for people and the planet; and the Secretary-General’s Road Map for Digital Cooperation, which calls for a concerted, multi-stakeholder, global effort to create digital public goods as a critical pathway to achieving the Sustainable Development Goals and thus tackling the triple planetary crisis of pollution, climate change and biodiversity loss.

5. The digital strategy will undergo regular reviews to refine it as the secretariat makes progress in leveraging data-driven solutions and technologies and will be progressively implemented according to the availability of resources. This iterative process will enable the secretariat to adapt to emerging trends and evolving needs and ensure that the digital strategy remains relevant and effective in supporting the implementation of the Convention.

6. The digital strategy has two main goals:

   (a) To expand and strengthen the services, processes and tools of the Minamata Convention digital ecosystem, applying inclusive principles and criteria so as to leave no one behind, in order to amplify the benefits of information exchange, communication and knowledge management activities to accelerate and scale parties’ actions to reduce and eliminate mercury emissions and releases;

   (b) To promote and accelerate digital transformation, innovation and the creation of new digital capacity to improve the way the secretariat delivers products and services to parties and other stakeholders, and to guarantee that the work system, plans and processes are adequate and well prepared for the future and facilitate the development of successful strategic alliances based on creative dialogue and collaboration.

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\(^1\) UNEP/MC/COP.5/19, annex I.
7. To achieve these goals, the current digital strategy is organized into three areas: digital ecosystem; building partnership and digital literacy; and governance and innovation.

A. Digital ecosystem

8. **Website:** The website is the main source of public information and knowledge about the Convention and as such is the core of the Minamata Convention’s digital ecosystem. The website is maintained and improved on a regular basis. The secretariat will make an effort to digitalize submissions from parties, such as notifications of designation of national focal point, and will plan for a decision-tracking mechanism. Party profiles will be further enhanced in accordance with a data-driven principle, and the information architecture will be revisited regularly to maintain a good user experience. In terms of accessibility, the website will be compliant with web content accessibility guidelines and United Nations guidelines for accessibility, with content in English, French and Spanish and documents in the six United Nations official languages. The website will continue to comply with the privacy and data protection policies of the secretariat and monitoring tools will be used to track website uptime and promptly address service disruptions. Regarding website maintenance, the secretariat will seek parties’ support to shift from relying on external service providers to having internal resources for this task, to avoid putting the secretariat’s digital public goods at risk.

9. **Digital services during Conference of the Parties meetings:** During the preparation of the meetings of the Conference of the Parties, special attention will be paid to ensuring smooth access to all relevant information, from the registration system to the management of pre-, in- and post-meeting documents. Providing a secure and seamless information space during the meeting is crucial, including access to the agenda, conference room papers and other submissions, information on side events, and the daily schedule. In that regard, it is imperative to maximize digital opportunities to contribute to greener, paperless Conference of the Parties meetings.

10. **Online reporting tool:** The tool for national reporting will be maintained and further developed to support parties in meeting their obligations under article 21 of the Convention. Activities include creating forms for all upcoming short and full reporting cycles and incorporating changes related to the reporting format and any other changes agreed by the Conference of the Parties into the tool, in all six United Nations languages. The inclusion of an automatic translation capability will be considered with a view to making the reports received by the secretariat more accessible. Furthermore, there is a need to enhance the integration of the existing dashboard on quantitative data, providing more options for downloading data, improving the user experience through new visuals, enabling cross-referencing of data for more in-depth analysis and allowing filtering of data by cycle and party. Future work on extracting data from parties’ reports to feed an information exchange platform would facilitate the cooperation called for in article 17 of the Convention.

11. **Dashboards and visualization:** Data visualizations and dynamic dashboards will be incorporated into the Convention publications and communication products to underpin a better data approach to communicating progress under the Convention and generate more impact within outreach campaigns. Data analysis will be increasingly generated under the Convention and integrated into the secretariat’s outputs and will be sharable through application programming interfaces, with attention paid to the user experience and interoperability processes that ensure data accuracy and avoid duplication of effort. The secretariat will continue its current endeavours to visualize results from national reporting, as well as from Global Environment Facility and Specific International Programme projects, at the national and global level.

12. **Infrastructure:** A robust, reliable infrastructure is required to support the website and its digital ecosystem. In terms of website hosting, a good solution is already in place: an entity that is part of the United Nations system provides a scalable solution that accommodates increasing traffic and content growth, and implements regular automated backups to protect against data loss. A solid infrastructure can support the development of digital communication capability; information analysis and exchange; data capture and exchange and knowledge management; and enhancement of planning, monitoring, reporting and review processes.

13. **Digital repository:** To facilitate the exchange of information called for in article 17 of the Convention, the secretariat will develop a digital repository of scientific and technical information on mercury that improves the collection of and facilitates access to relevant information and knowledge resources produced by reliable sources on mercury and related topics. The main purpose of the

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2 See https://www.w3.org/WAI/standards-guidelines/wcag/.
repository is to support parties in finding the information they need to develop and implement effective national mercury reduction strategies and action plans.

14. **Information exchange platform:** In line with article 17, the secretariat will develop a digital platform that facilitates cooperation in the exchange of information between the parties and relevant organizations, including the secretariats of other multilateral environmental agreements. The platform is envisioned as a virtual space for sharing information, providing document analysis and holding online discussions on thematic areas. As mentioned above, at an initial stage the platform could harvest the data on the implementation of article 17 provided by parties in their first full national reports.

B. **Building partnerships and digital literacy**

15. **E-learning initiatives and digital products to support capacity-building:** These activities will have a specific focus on developing country parties and parties with economies in transition, and will be conducted in English, as well as in French and Spanish when feasible. The support to be provided includes three levels of comprehensive training for national focal points: e-learning courses for foundational knowledge; webinars, such as the Minamata Online series, for deeper understanding of specific topics and question and answer sessions; and in-person workshops, incorporating case studies and best practices, to accelerate learning on national focal point obligations. Additionally, the secretariat will offer advisory services to assist national focal points in assessing and supporting their countries’ digital readiness to adopt digital tools to accelerate the achievement of the Sustainable Development Goals and meet commitments under the Convention, such as national reporting.

16. **Digital skills:** It is essential to enhance digital capacities throughout the organization, in order to facilitate seamless data sharing that supports decision-making and knowledge management throughout the organization. The secretariat will prioritize strengthening its digital culture and will encourage staff training so that the available infrastructure and tools are fully utilized to foster innovation and a culture of change.

17. **Collaboration with relevant stakeholders:** The secretariat will promote connection and interoperability with other initiatives under development and will leverage existing tools, networks and expertise to support parties in addressing gaps, enhancing capacity and systems and scaling up collaboration on data, information and knowledge management. This includes, as appropriate, collaboration with the United Nations Environment Programme, the United Nations Information Portal on Multilateral Environmental Agreements (InforME) and secretariats of other multilateral environmental agreements, the Global Environment Facility and the Global Mercury Partnership. Such approaches will be scaled up to the national level, strengthening interoperability and data flow among national, regional and global information systems and platforms. The secretariat will actively participate in communities of practice on digital cooperation within the framework of the United Nations system, such as InforMEA and the Coalition for Digital Environmental Sustainability.

C. **Governance and innovation**

18. **Data management:** The secretariat will provide support for information technology and data management workflows related to outcomes of the meetings of the Conference of the Parties, such as typology of publications and effectiveness evaluation indicators. This includes ensuring data accuracy, transparency and security as well as visualization of data and data products.

19. **Accessibility:** For publicly available information, the Minamata Convention secretariat is committed to using, promoting and advocating for open digital standards that facilitate seamless data scalability, reusability and interoperability, as outlined in the Secretary-General’s data strategy. The secretariat will promote access to digital public goods, such as open-source software and resources that are freely available to all. Open data will contribute to enhanced transparency and accessibility.

20. **Data privacy and confidentiality:** The secretariat recognizes the importance of respecting data privacy and confidentiality and will therefore prioritize implementing robust safeguards to protect sensitive information and uphold individual rights, ensuring that data-sharing practices comply with relevant privacy regulations and United Nations standards.4

21. **Semantic relationships:** The secretariat will strengthen and promote the cooperative establishment of harmonized taxonomies and ontologies, which are standardized systems for organizing information to make it easier to navigate and comprehend. Such frameworks will facilitate

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the organization of knowledge and rapid access to accurate information, as well as analysis, comparison and retrieval of mercury-related data, for more efficient information exchange.

22. **Data standards**: The secretariat will collaborate on and contribute to the standardization of metadata for classification and content-type schemas within the United Nations, InforMEA and the United Nations Environment Programme (UNEP), where it adds value to the Minamata Convention secretariat. To date, the secretariat has benefited from interoperability with the InforMEA portal enabled by such standards, for information exchange on things like parties, decisions, national focal points and national reports. This collaborative effort is aimed at establishing consistent, interoperable standards that enhance data-sharing, information exchange and compatibility across UNEP and its associated platforms.

23. **Artificial intelligence and machine learning**: The secretariat will keep abreast of new developments in artificial intelligence and will explore the potential uses of artificial intelligence and machine learning, especially for data collection and analysis and data model creation, to support effective knowledge-sharing and collaboration. The secretariat is also aware that global cooperation in artificial intelligence entails understanding the individual and social dimensions and promoting equity, gender and cultural diversity approaches with safe, trustworthy and open algorithms, and will closely adhere to the principles for the ethical use of artificial intelligence in the United Nations system (CEB/2022/2/Add.1).\(^5\)

24. **Robust metrics and feedback mechanisms** play a pivotal role in facilitating continuous improvement and agility of digital services. By implementing comprehensive measurement systems and feedback loops, the Minamata Convention secretariat can gain valuable insights into the performance and effectiveness of its digital services. The metrics help identify areas for improvement, track progress towards goals and measure the impact of changes or updates. Additionally, feedback mechanisms provide an avenue for users and stakeholders to express their opinions, report issues and suggest enhancements. The secretariat will collect the views of parties regarding their needs and priorities in terms of development of digital technologies and use of available data and information exchange tools that support them in implementing the Convention. Such input is valuable not only for informing product development but also for fostering a sense of ownership and collaboration between the organization and its users.

25. **Inclusiveness**: The Minamata Convention secretariat recognizes the importance of promoting a digital transformation that is inclusive and has a gender perspective, with particular emphasis on supporting the most vulnerable populations. To achieve digital inclusion, the secretariat will prioritize equitable access, promote the development of digital skill and emphasize user-friendly design in technological solutions. The secretariat is committed to leaving no one behind and will make a concerted effort to support developing-country parties in its digital inclusion initiatives.

26. **Cross-cutting approach**: The secretariat will continue its efforts to integrate a digital approach that is cross-cutting across the entire programme of the Convention into its activities, projects and programmes. By incorporating a digital strategy into the core areas of the programme of work, the secretariat aims to optimize the applicability and relevance of its initiatives while leveraging the potential of digital technologies to advance the objective of the Convention.

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Draft decision MC-5/[-]: Knowledge management

The Conference of the Parties,

Recalling that the 2030 Agenda for Sustainable Development highlights the importance of information and communication technologies as enablers of growth and acknowledges their transformative power in promoting inclusive participation, collaboration, knowledge exchange and innovation among diverse stakeholders, with the ultimate goal of driving progress towards the Sustainable Development Goals,

Recalling also that Environment Assembly resolution 4/23 seeks to develop a long-term data strategy in consultation with secretariats of multilateral environmental agreements and take into account their appropriate, credible and quality-assured data and information resources,

Welcoming the progress made by the secretariat in the area of knowledge management and digitalization as a cross-cutting element of the programme of work,

1. Notes with appreciation the digital strategy for the Minamata Convention secretariat as outlined in annex I to document UNEP/MC/COP.5/19, to guide the work of the secretariat in the upcoming years in leveraging technology and managing knowledge effectively to support the implementation of the Convention;

2. Agrees that implementation of the digital strategy should begin, in accordance with the programme of work and budget for the Convention for the biennium 2024–2025, and requests the secretariat to propose activities to implement the strategy in the programmes of work and budgets for the following bienniums;

3. Requests the secretariat to continue collaborating with the secretariats of other multilateral environmental agreements and other partners, including the United Nations Information Portal on Multilateral Environmental Agreements (InforMEA) initiative, in knowledge management, digitalization and information exchange.