

Epidemic Intelligence from Open Sources (EIOS) Strategy 2024–2026

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Epidemic Intelligence from Open Sources (EIOS) Strategy 2024–2026

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Cover photo: A public health intelligence expert views the EIOS system monitoring page on their computer.
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A panel of international experts speaks at the 2024 EIOS Global Technical Meeting in Saly, Senegal. © WHO / Geraldine Hutt

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Glossary

All-hazards approach. An approach to the management of the entire spectrum of emergency risks and events based on the recognition that there are common elements and common capacities required in the management of these risks, including in the responses to virtually all emergencies.¹

Collaborative surveillance. The systematic strengthening of capacity and collaboration among diverse stakeholders, both within and beyond the health sector, with the ultimate goal of enhancing public health intelligence and improving evidence for public health decision-making.¹

Coordination Group (CG). A 15-member body that provides strategic advice to the EIOS initiative. CG members serve a two-year term with the possibility to reapply for additional terms. The CG meets quarterly to discuss and advise on developments and priorities for the EIOS initiative.

EIOS Community. A group of EIOS system users from a WHO Member State, organization or network (e.g. international organizations, nongovernmental organizations, expert groups, etc.) with its own unique user environment within the EIOS system. A community can have multiple teams, including different entities.

EIOS Community of Practice (CoP). Collectively, all members of EIOS communities that benefit from the exchange of information and analysis through the EIOS initiative.

EIOS Core Team (ECT). The ECT is responsible for the global coordination and oversight of the EIOS initiative. The ECT sits within the Intelligence Innovation Integration (III) Unit of the WHO Hub for Pandemic and Epidemic Intelligence located in Berlin, Germany.

EIOS system. The EIOS system is an evolving web-based system designed to augment and accelerate public health intelligence (PHI) activities, built on a long-standing collaboration between WHO and the Joint Research Centre (JRC) of the European Commission.

The system supports PHI activities through open-source information from thousands of websites that are

automatically categorized, translated and summarized. Software components are developed and integrated into the system with the goal of supporting users in performing their work faster and better.

EIOS user/member. A person with access to the EIOS system and community of practice (all users are part of an EIOS community).

Global EIOS Community. Encompasses individuals, organizations and networks that contribute to the EIOS initiative, including the EIOS CoP and other multi-sectoral partners (e.g. academia, the private sector, etc.), who do not necessarily use or have a dedicated space on the EIOS system.

International Health Regulations. International legal instrument issued by the World Health Organization (WHO) that was binding – as of August 2012 – on 194 countries, including all the member States of WHO. Stated aim: to help the international community prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide.²

One Health approach. An approach to address a health threat at the human-animal-environment interface based on collaboration, communication, and coordination across all relevant sectors and disciplines, with the ultimate goal of achieving optimal health outcomes for both people and animals; a One Health approach is applicable at the subnational, national, regional, and global level.³

Public Health Intelligence (PHI). A core public health function responsible for identifying, collecting, connecting, synthesizing, analyzing, assessing, interpreting, and generating a wide range of information for actionable insights and disseminating these for informed and effective decision-making to protect and improve the health of populations.⁴

Super-Communities. A group of EIOS communities or teams coming together to collaborate (leveraging existing or building new relationships) in the context of the EIOS initiative.

Acronyms

CG	Coordination Group
CoP	Community of Practice
ECT	Epidemic Intelligence from Open Sources Core Team
EIOS	Epidemic Intelligence from Open Sources
GHSI	Global Health Security Initiative
JRC	Joint Research Centre of the European Commission
KPIs	Key Performance Indicators
PHI	Public Health Intelligence
RO	WHO Regional Office
SOP	Standard Operating Procedure
SWOT Analysis	Strengths, Weaknesses Opportunities, Threats Analysis
ToR	Terms of Reference
WCO	WHO Country Office
WHE	WHO Health Emergencies Programme



Executive Summary

EIOS Focal Points from WHO AFRO and African Member States together with members of the EIOS Core Team on stage at the 2024 EIOS GTM in Saly, Senegal. © WHO / Geraldine Hutt

Robust public health intelligence (PHI) is central to ensuring global health security, as emerging health threats, climate-driven crises, and conflict continue to endanger millions of people each year.⁵ PHI has been identified as a critical component in strengthening early detection and response capabilities, empowering timely, data-driven decision-making to address health risks before they escalate. The COVID-19 pandemic revealed significant weaknesses in global PHI, prompting focused efforts to build resilient data infrastructures, foster cross-border collaboration, and enhance early warning systems.⁶ Initiatives such as Epidemic Intelligence from Open Sources (EIOS) are bridging these critical gaps, providing the tools and frameworks needed to safeguard populations and mitigate future health crises.

The EIOS initiative, established in 2017 under WHO’s leadership, integrates new and existing public health initiatives in the creation of a unified, globally coordinated approach to early detection, assessment, and communication of public health threats using publicly available data. Built on a foundation of collaboration and harmonization across organizations and jurisdictions, EIOS comprises a global Community of Practice (CoP) and an adaptable, purpose-driven technology platform designed to empower users to detect health threats effectively. With its vision of early threat detection for rapid intervention, the EIOS initiative harnesses technology to augment data analysis capabilities and fosters collaboration among diverse stakeholders to strengthen PHI practices globally, aligning with the overarching goal of collaborative surveillance to mitigate health threats and minimize their impact on lives and livelihoods.

The EIOS initiative has experienced significant demand and growth since its inception, expanding rapidly across WHO Member States, organizations, and expert networks worldwide. As of December 2024, there are more than 130 communities, including more than 100 Member States, on the EIOS system. To sustain this momentum and effectively manage ongoing expansion, a strategic approach is essential to identify necessary resources, engage communities, effectively onboard new communities, and ensure the continued evolution and capability of the EIOS system. This strategy aims to align and coordinate expansion activities across stakeholders, ensuring the initiative’s sustainability while remaining true to its vision and mission.

Presently, EIOS serves as a vital support to global PHI primarily through detection, bolstered by a network of professionals engaging through various channels such as meetings and webinars. Building on a thorough diagnostic analysis and understanding of the current state of the EIOS initiative, this document presents strategic visions for 2026 and 2030. The 2026 vision aims to integrate EIOS seamlessly into PHI practices at regional and national levels, fostering autonomous collaboration within the CoP and enabling further strengthened decentralized, cascaded trainings. Looking ahead to 2030, EIOS is envisioned to empower PHI throughout the entire lifecycle of a public health event, facilitating easier access to relevant data, training, and networks for the CoP and within the larger PHI ecosystem.

The strategy focuses on achieving the 2026 vision and proposes a framework for the 2024–2026 period. This ambitious three-year strategy sets out to expand

EIOS from its current state as an invaluable initiative supporting detection in many countries to an initiative that facilitates the generation of better intelligence and insights that is mainstreamed into PHI practice worldwide. To achieve this goal, the strategy defines three **strategic objectives**, aimed at:

(S1) **Transforming the EIOS system** for enhanced functionality and sustainability, leveraging advanced research and development. This will be achieved by rearchitecting the system; ensuring an effective transition from the current to more advanced versions; and adding new technology modules that add valuable functionalities for its users, such as generating insights through the use of artificial intelligence.

(S2) **Maximizing engagement and sustainability** of the EIOS CoP. This will be achieved by better targeting support to different communities based on their needs; building interlinked self-supporting communities to enable knowledge sharing and mentorship; optimizing the way training is delivered; and improving the user experience.

(S3) **Connecting and advocating for EIOS** with other initiatives, communities, decision-making processes and systems. This will be achieved by collaboratively linking EIOS to other initiatives in WHO and across other partner initiatives; increasing the visibility of EIOS with public health decision-makers; linking EIOS training to broader PHI training offers; and expanding the scalability and interoperability of the EIOS system.

To optimally achieve the strategic objectives, **key enablers** of the initiative must also be adapted and strengthened. These enablers include the **operating model** for delivering the EIOS initiative, the **governance structure** that provides strategic input, and the **resourcing** to sustain and grow the initiative effectively. Three key **enabling objectives** and activities are defined in the strategy, as below:

(E1) **Decentralize the EIOS operating model** so that the ECT will primarily focus on strategic work. The WHO regional offices (ROs), the PHI team at WHO headquarters and other key collaborators will be further empowered to lead on training, implementation, and technology

development; and new technology partnerships will be established. This shift aims to better meet the needs of the growing global community, facilitate stronger collaboration and contribution to the EIOS system and wider initiative, and balance such factors as **quality, flexibility, and sustainability**.

(E2) **Secure sustainable, long-term funding** for the EIOS initiative to support its expansion and operational needs. This will involve enhancing collaboration with WHO and other organizations to coordinate fundraising efforts. To effectively implement the strategy, an estimated USD \$10 million per annum is needed.

(E3) **Bolster governance capacity** within the EIOS initiative, continuing to leverage the Coordination Group (CG) and complementing it with a new Technology Group (TG) that will provide strategic advice and guidance on technology developments. By strengthening the existing CG mechanisms and introducing a voluntary TG, the initiative aims to enhance leadership opportunities and foster wider interoperability in PHI efforts, ensuring more effective decision-making and use of technology.

Together, these enabling objectives will create a transformed EIOS ecosystem, with more agile and sustainable technology development and maintenance, more empowered communities and regions, and a secretariat (the ECT) that is more focused on the highest-value strategic and management tasks.

Progressively implementing the strategic and enabling initiatives will result in tangible improvements over three years, and lead to the outcomes defined in the strategic framework such that all PHI communities can better:

1. Identify and track threats within and beyond their geographies.
2. Contextualize and understand the threats and associated risks across social, political, economic, and other dimensions.
3. Anticipate and mitigate health risks emerging from public hazards.

Background

EIOS
EPIDEMIC INTELLIGENCE
FROM OPEN SOURCES

The WHO Hub for Pandemic and Epidemic Intelligence

Amidst the enormous challenge of worsening conflict and insecurity, emerging health threats, and the increasing number of disasters spurred by the climate crisis, PHI has emerged as a critical tool for early detection, rapid response, and informed decision-making.⁵ By harnessing data analytics, surveillance systems, and interdisciplinary collaboration, public health professionals can anticipate, assess, and mitigate the risks posed by these emergencies, safeguarding communities and bolstering resilience in the face of adversity. In this dynamic environment, the ability to gather, analyze, and disseminate intelligence is paramount, shaping the effectiveness of interventions and global health outcomes.

The COVID-19 pandemic exposed weaknesses in global PHI, such as gaps in surveillance systems, coordination, and data sharing that delayed timely responses.⁶ In response, numerous initiatives have emerged to strengthen PHI through better data infrastructure, international collaboration, and advanced technologies for early warning and response. Among these is the WHO Hub for Pandemic and Epidemic Intelligence (WHO Hub in Berlin), established in 2021 with support from the Government of Germany. The Hub promotes collaborative surveillance by enhancing global capacity and cross-sector cooperation to improve public health intelligence and decision-making. By partnering with over 150 countries and leveraging technology and multidisciplinary expertise, the WHO Hub in Berlin supports coordinated, innovative responses to health threats globally.⁷ The EIOS initiative, established prior to the COVID-19 pandemic and the creation of the WHO Hub in Berlin, is one of its flagship programs, naturally aligning with its mission.

The Epidemic Intelligence from Open Sources (EIOS) initiative

In November 2017, WHO formally accepted leadership of the EIOS initiative under the Health Emergencies Programme (WHE) as part of its constitutional mandate as the directing and coordinating authority on international health work. The formalization of the EIOS initiative is the

culmination of a joint commitment by the Global Health Security Initiative (GHSI), the Joint Research Centre of the European Commission (JRC) and WHO to enhance capacity to rapidly detect and assess threats to global health security. During the seventy-first World Health Assembly in May 2018, EIOS was instituted as a key initiative within the five-year global strategic plan to enhance public health preparedness and response, to strengthen event management, and to support the implementation of the International Health Regulations.⁸

Today, EIOS is the world's leading initiative for open-source intelligence for public health decision-making. As of December 2024, there are more than 130 communities, including more than 100 WHO Member States, on the EIOS system. Used daily by governments and organizations around the world, the EIOS system leverages advances in technology to harness the power of open-source data for detection and supports the assessment of public health threats, in near real time. This information provides decision-makers with a crucial time advantage that they can use for quick and effective action. The overarching mission of the EIOS initiative is to help public health leaders around the world protect their populations from disease outbreaks and health emergencies before they escalate into bigger crises.

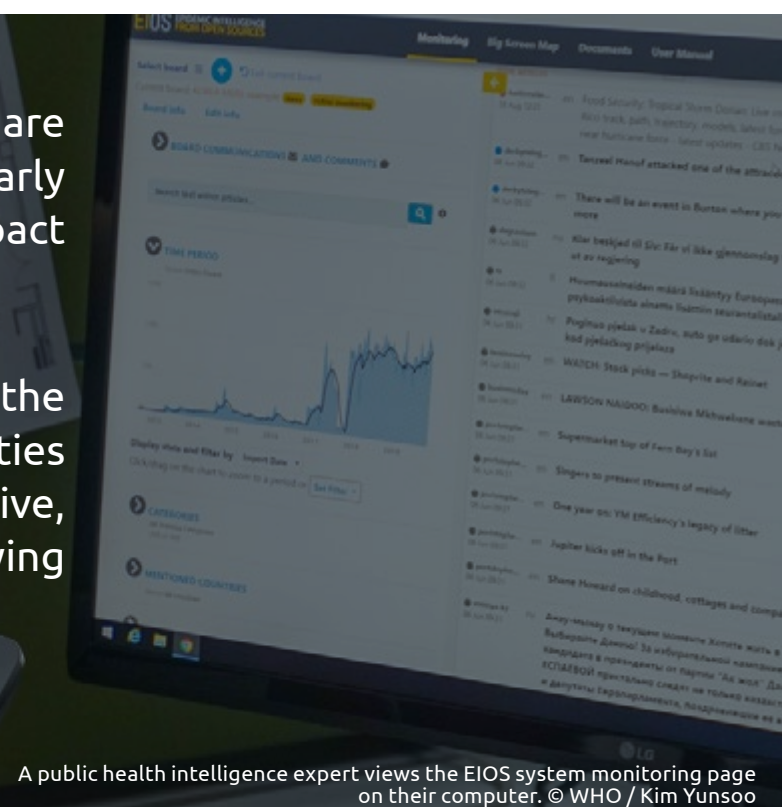
Built on three foundational pillars, the EIOS initiative comprises a global CoP for PHI, a diverse array of multi-disciplinary collaborators, and an adaptable, purpose-driven system. A rotating 15-member Coordination Group (CG) provides strategic guidance for the initiative, while the EIOS Core Team (ECT), based at the WHO Hub in Berlin, oversees its global coordination. The global community of collaborators spans WHO Member States, international and regional organizations, expert networks, research institutes, nongovernmental organizations (NGOs), and others. The EIOS system enhances the CoP's ability to perform PHI functions by integrating open-source data from thousands of websites, which are automatically categorized, translated, and summarized. Additionally, the system is continuously being enhanced with new technology modules designed to streamline and improve users' efforts.

Furthermore, the global CoP plays a crucial and unique role in strengthening PHI practices. Led by WHO, it brings together professionals from diverse entities and disciplines to promote collaboration and information sharing. These goals are achieved through regular engagements and coordinated activities.

EIOS's vision and mission align with the overarching goal of collaborative surveillance, aiming to fortify PHI practices to mitigate health threats:

Vision: A world where health threats are identified and responded to so early and rapidly that they have zero impact on lives and livelihoods.

Mission: To save lives and minimize the impact of threats to health, societies and economies through collaborative, authoritative and timely PHI, allowing for rapid, evidence-based action.



A public health intelligence expert views the EIOS system monitoring page on their computer. © WHO / Kim Yunsoo

EIOS Strategy 2024–2026

Purpose

The 2024-2026 EIOS Strategy focuses on ensuring sustainability and adaptability to meet growing demand. It integrates stakeholder perspectives to set ambitious yet achievable goals and outlines concrete activities for implementation. Key elements include improving the system and technologies, strengthening community engagement, optimizing user onboarding and training, and further decentralizing implementation. Additionally, the strategy addresses resource mobilization and evaluation needs to maintain resilience and long-term impact.

EIOS community members in conversation at the 2024 EIOS Training of Trainers workshop in Berlin, Germany. © WHO / Geraldine Hutt

Methodology

The strategy was developed in three phases: first, diagnosing the current implementation status; second, creating a theory of change and strategic framework based on this assessment; and third, exploring resource needs and establishing Key Performance Indicators (KPIs) to track progress. Although the strategy focuses on the 2024-2026 period, a strategic goal for 2030 was also established during the development phase to ensure alignment with the long-term vision.

The strategy is built on and categorized by three areas—*technology, training, and community*—with fundamental

enablers underpinning these areas, including- operating models, governance and resourcing. Each area has distinct considerations but is inherently interconnected within the initiative. The initiative's strength and sustainability require that all three areas function effectively and work together cohesively.

The diagnostic phase was built on a range of sources, including desk research and input from key stakeholders: the ECT, WHO regional office (RO) focal points, selected users from WHO Member States, WHO Regional Programme Area Managers, and the CG.

Diagnosis

In the diagnostic phase, Strengths, Weaknesses Opportunities, Threats (SWOT) analyses were conducted for the EIOS initiative and for each key area of technology, training, and community. The high-level findings of the SWOT analyses were:

Strengths

- The EIOS system is widely used, and stakeholders highly appreciate the global CoP considering it a distinctive and valuable component of the EIOS initiative.
- The training offer is valued and has successfully supported rapid expansion and scale-up.
- The ECT is seen as supportive and reactive to requests from ROs, WHO country office (WCO) teams and user communities.
- The EIOS initiative has had a stable foundation from which to grow, with a well-functioning advisory body, donor financing, and a well set-up support organization in the ECT.

Weaknesses

- The growth of the EIOS initiative has stretched EIOS system development capacity.
- Growing training demands constrain capacity to focus on more strategic issues such as supporting system uptake and quality assurance.
- There is limited capacity at the WHO regional level to support engagement and to take a more strategic approach to integrate EIOS into the broader PHI workflow.
- Community engagement and exchange still largely depend on initiatives undertaken by the ECT.
- There is a need to provide additional guardrails for expansion and to clarify roles and responsibilities for technology development and regional financing.

Threats

- More agile technology competitors may appear on the scene and fragment the EIOS user base.
- Training does not directly translate to active users of the EIOS system, leading to inefficient use of resources and issues with sustainability.
- Political dynamics in community recruitment and user selection are risks to retention and maintenance of community engagement.
- WHO's structure as a multilateral organization primarily focused on health limits its ability to support the agile and fast-paced development needed for technology projects.
- Current financing is secured only through the end of 2025, and there is a risk that new costs will arise, such as copyright costs from growing data input.

Opportunities

- The EIOS system encompasses thousands of text-based sources but does not yet include more diverse information sources, such as contextual information and social media (with limited exceptions), as well as non-text-based sources, such as radio.
- Communities spend significant time using the EIOS system and work largely in silos, with duplication of searches and analyses.
- The initiative has rapidly expanded but has not always translated new users into increased usage.
- There is limited integration with other PHI systems and communities.



EIOS strategic goals 2026 and 2030

The visions for 2026 and 2030 align with the insights from the diagnostic analysis, clearly reflecting the high-level goals of the initiative for the upcoming years.

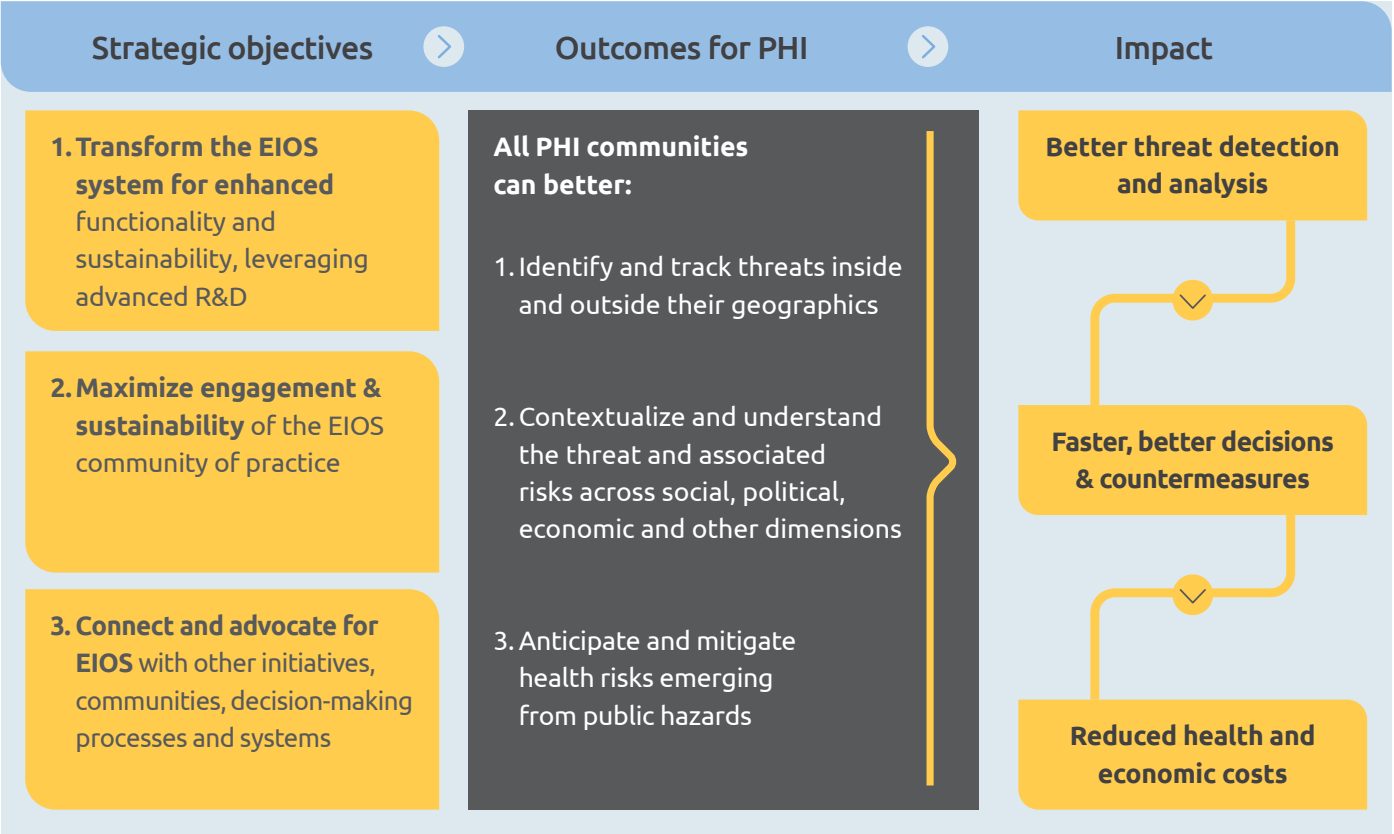
EIOS today	2026 vision	2030 vision
EIOS is an invaluable initiative supporting PHI globally (primarily through detection) that is strengthened by a global network of PHI professionals who engage with each other through meetings, webinars and trainings. With present capacity and copyright constraints, the current main target audience is public-sector PHI entities.	The initiative facilitates the generation of better intelligence and insights, and complements and connects to relevant systems and initiatives. The CoP collaborates autonomously on shared PHI objectives and is self-sustained with a decentralized, cascaded training model. The rearchitected EIOS system makes it more flexible and easier to integrate with other technologies, allowing more people to access specific features and services.	EIOS empowers PHI practitioners along the entirety of the event lifecycle, from detection to decision-making, by enabling the CoP to connect to relevant data, training, networks and other relevant initiatives within the larger PHI ecosystem more easily – both as a community as well as through the WHO-serviced EIOS system. The EIOS initiative is mainstreamed into PHI practices at regional and national levels.

Strategic framework 2024-2026

While the strategy defines visions for 2026 and 2030, the strategic framework focuses on the period from 2024 to 2026.

The theory of change (see Figure 1) in the strategy framework aligns with the impact goals of the WHO Hub in Berlin, while its outcomes and strategic objectives are specifically tailored to the EIOS initiative's focus on PHI.

Figure 1: Theory of Change

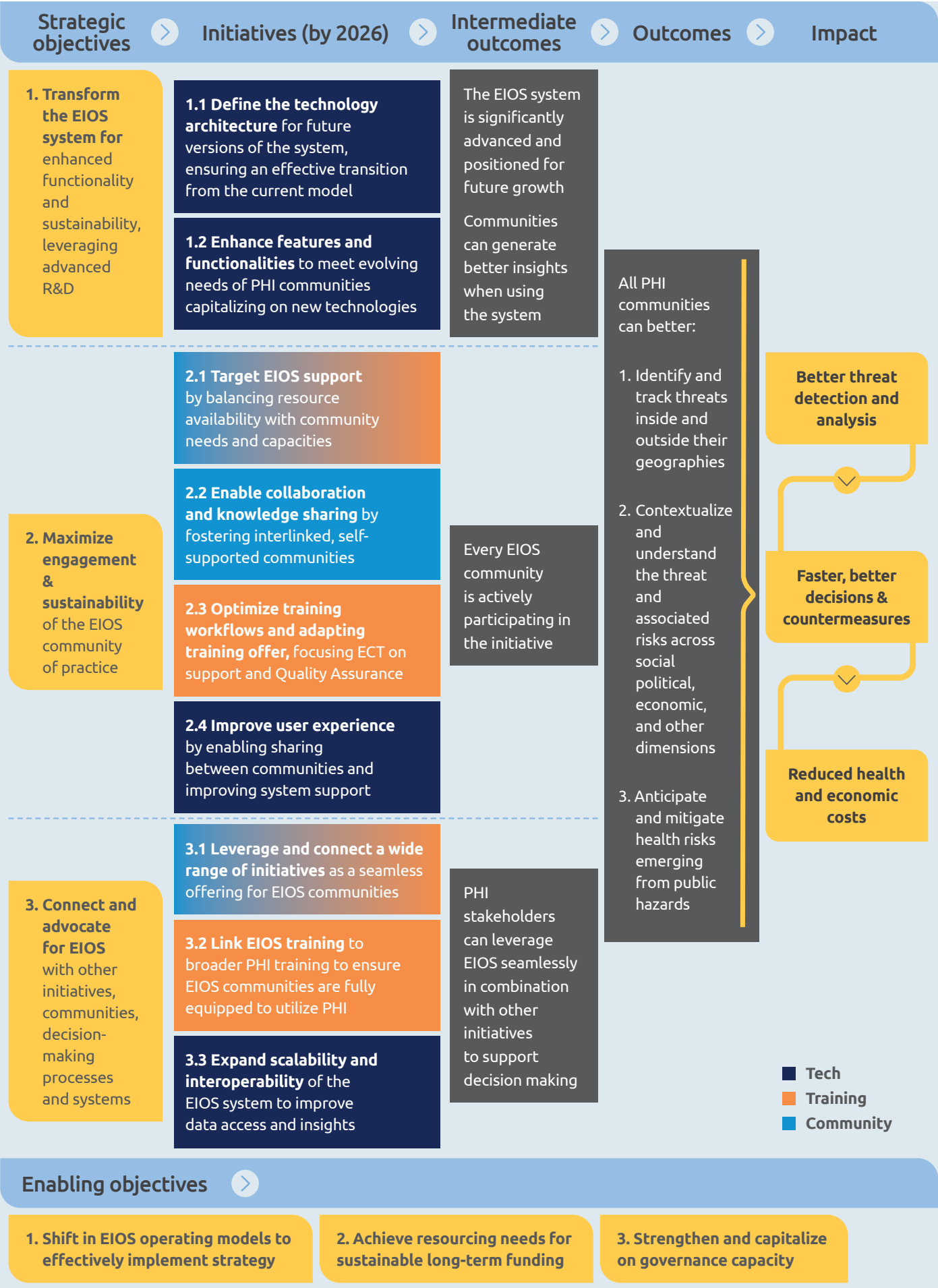


The comprehensive strategic framework (see Figure 2) outlines initiatives and key activities (not shown in the figure) designed to achieve the strategic objectives. It defines intermediate outcomes, enabling objectives, and associated activities that support the overall strategy. Initiatives are color-coded to indicate their corresponding key areas: technology, training, or community.

Participants share their experiences as EIOS trainers at the 2023 EIOS Training of Trainers workshop in Berlin, Germany. © WHO / Geraldine Hutt



Figure 2: 2024-2026 Strategy Framework



Strategic objectives

The following section describes each strategic objective in the framework, the initiatives that will be carried out to implement them, and the associated key activities. The complete detailed strategic initiatives with further sub-activities are available in a separate document.

Strategic objective 1:

Transform the system for enhanced functionality and sustainability, leveraging advanced research and development.

In today’s rapidly evolving public health landscape, effective information systems are critical for timely decision-making and coordinated responses to health threats. Ensuring that these systems are scalable and adaptable to changing needs is essential to maintain global health security. The EIOS system has provided WHO Member States and organizations globally with an effective early detection platform, but the rapid expansion of the initiative has led to scalability and functionality challenges, which has resulted in fragmented and slow technology developments. To enhance the system’s scalability, functionality, and usability, strategic initiatives focusing on rearchitecting the system and enhancing functionalities are proposed. These initiatives aim to create a more robust solution that is characterized by an enhanced core system to allow for sustainable, rapid and agile development of technologies based on users’ needs, thereby addressing the existing limitations and improving the overall user experience. Two strategic initiatives comprising key activities will be implemented:

- 1.1 Define the technology architecture** for future versions of the system, ensuring an effective transition from the current model:
 - Rearchitect and upgrade the EIOS core system to allow for sustainable development of technologies;
 - Set up scalable infrastructure for seamless scaling of the EIOS system and for addition of 3rd party components;
 - Create and implement a transition plan for the release of EIOS system v.2.0 and future versions.
- 1.2 Enhance features and functionalities** to meet the evolving needs of PHI communities, capitalizing on new technologies:
 - Actively incorporate users and technical experts from communities in the software development lifecycle, including requirement gathering and testing;
 - Improve features and functionalities, and insight and analysis generation through a more agile development process and effective use of AI;
 - Expand sources, categories and contextual information in the system;
 - Further enable user-generated insights to be shared across communities.

Strategic objective 2:

Maximize engagement and sustainability of the EIOS community of practice.

For a global PHI community to be most effective, it requires an active, engaged CoP—one that is well-trained, collaborative, and committed to ongoing participation. A strong and sustainable EIOS CoP is essential to facilitate shared knowledge, timely insights, and coordinated actions that support global public health. While many communities in the EIOS CoP embody these principles, other communities show limited participation levels and difficulties in maintaining consistent engagement after training concludes. The factors contributing to low community readiness and usage include workforce limitations, insufficient prioritization of EIOS within PHI strategies, and accessibility barriers. To optimize engagement, training and sustainability within the EIOS CoP, key initiatives with corresponding activities will be implemented to address these challenges and achieve Objective 2:

2.1 Target EIOS support, balancing resource availability with community needs and capacities:

- Invest in community support and offerings based on needs and capacity. A suitable level of engagement will be determined by assessing user metric data, as well as key training and

engagement events to better understand the needs of communities. Additionally, other means of intercommunity engagement will be promoted, such as enhanced collaboration through “super-communities”.

2.2 Enable collaboration and knowledge sharing by fostering interlinked, self-supported communities:

- Facilitate and advise collaboration through “super-communities” with clear PHI objectives;
- Define and implement roles and responsibilities for self-organized community management on the system, as current community management is centralized and carried out almost exclusively by WHO RO focal points or the ECT;
- Convene and communicate with the global EIOS CoP on a regular basis with different offerings to build trust and strengthen networks.

2.3 Optimize training workflows and adapting the training offer, with the ECT focused on support and Quality Assurance:

- Standardize and improve flexible training offers and support;
- Focus the ECT on support and Quality Assurance of a cascaded model with supportive certified trainers;
- Assure quality of training and certification.

Strategic objective 3:

Connect and advocate for EIOS with other initiatives, communities, decision-making processes and systems.

Fostering a unified approach to global health challenges requires an effective integration of systems, initiatives, and expertise across diverse geographies and disciplines. Establishing strong connections between EIOS and a broad network of initiatives, both within and beyond WHO, is critical to creating a resilient and adaptable PHI ecosystem capable of supporting timely, informed decision-making. This unified approach is demonstrated by the breadth and engagement of the global EIOS community. Presently, however, there are limited avenues for users to leverage the EIOS system's capabilities or seamlessly integrate its data into their own PHI software or systems. Moreover, the integration of EIOS training into a broader framework of PHI training for WHO Member States and other stakeholders remains limited. Finally, networking and knowledge exchange within the CoP are constrained and are primarily reliant on the efforts of the ECT, with communities yet to fully capitalize on the potential of the CoP for collaborative learning and enhanced surveillance efforts.

To address these gaps and enhance the interoperability and connectivity of EIOS with other initiatives, communities, decision-making processes and systems, three strategic initiatives will be implemented:

3.1 Leverage and connect a wide range of initiatives as a seamless offering for EIOS communities:

- Collaboratively link EIOS to other relevant WHO and partner initiatives to increase quality of insights gained;
- Increase visibility and strengthen advocacy to mainstream EIOS insights into public health decision-making.

3.2 Link EIOS training to broader PHI training to ensure that EIOS communities are fully equipped to use PHI:

- Contribute to the piloting and refinement of the newly developed PHI curriculum⁹ through EIOS;
- Integrate relevant PHI materials and training into the EIOS training offer and workflow and provide the EIOS CoP with access to relevant PHI training offers.

3.3 Expand scalability and interoperability of the EIOS system to improve data access and insights:

- Develop approaches to collaborative and open-source development of EIOS system capabilities.

Enabling objectives

To achieve the strategic objectives, key enablers must also be adequately adapted and strengthened. These cross-cutting enablers include the operating model for delivering the EIOS initiative, the governance and advisory structures that provide strategic input, and the resourcing to sustain and grow the initiative effectively. The following section describes three enabling objectives and their key activities.

Enabling objective 1:

Shift in EIOS operating models to effectively implement the strategy.

There are several dimensions to the EIOS operating model, including the way the ECT is structured and operates, how WHO ROs drive the implementation of the initiative in their regions, and how the technology partnership is defined and coordinated. The major shift across these dimensions is a move towards a more decentralized model. A decentralized model aims to meet the needs of an ever-growing CoP and balance key factors such as quality, flexibility and sustainability. Decentralization is already ongoing in many ways, such as the ROs leading on expansion, training and engagement in their regions, but the strategy aims to further strengthen this. This shift will also ensure that the new operating model will support the strategic and implementation plans developed by ROs for expansion and sustainability of the EIOS initiative in their regions.

To further enhance and extend a sustainable software development life cycle for the EIOS system, roles and responsibilities for operations, maintenance, and support will transition to an experienced technology partner. This partner will also lead an agile development and integration process of new system enhancements, including responding to user requests. This new model will enable the JRC to focus on its core mission of research to actively contribute its valuable insights and advancements to EIOS technology. Opportunities to work with other technology partners in different sectors, such as

academia and open-source communities, as well as from the WHO ROs and within the CoP, will also be explored under this new technology model.

The high-level initiatives and key activities to strengthen the EIOS operating model include the following:

1.1 Shift in implementation delivery model where roles and responsibilities of different entities are clearly defined:

- The ECT will focus on global oversight and quality assurance of the initiative and concentrate on key strategic tasks, delegating operational tasks to appropriate entities;
- WHO ROs will be further empowered to lead and own EIOS implementation in their respective region. The ROs will adhere to global quality standards and alignment on strategic decisions but will maintain flexibility to implement the initiative in their respective region as they see fit.

1.2 Shift in technology partnership model to strengthen a hybrid delivery approach for technologies:

- The ECT will coordinate a new technology partnership model that includes a mix of vendors and partners to deliver on key needs such as operations and maintenance and support, integration of technologies, development of new modules, and research;
- Through this new technology partnership model, there will be dedicated capacity for EIOS system and user support

Enabling objective 2:

Achieve resourcing needs for sustainable long-term funding.

Implementation of the EIOS strategy requires an estimated average of approximately USD \$7 million in activity funds per year over the strategic period of 2024–2026, which includes limited support to the WHO regional offices. These activity costs, plus WHO staff funding, amount to a total of about USD \$10 million per annum.

Deliberate and concerted fundraising efforts are paramount for the continued growth, maintenance and support of the EIOS initiative. The proposed approach will focus on developing clear “work packages” with defined objectives; components that work together to evolve EIOS but that individually address specific aspects of the initiative, catering to the investment priorities of different donors. Working together, these

components will facilitate collaborative surveillance and preparedness activities in WHO Member States; support implementation of the International Health Regulations (IHR); leverage AI and digital tools to strengthen global health security and build country capacity for PHI through National Public Health Agencies (NPHAs); and foster research, development and innovation to improve the intelligence and requisite collaborative surveillance landscapes.

The high-level activities for these fundraising goals include:

2.1 Fundraising to meet EIOS budget through 2026 so that all planned activities and implementation can be carried out:

- WHO fundraising (by the WHO Hub in Berlin and WHO Regional Offices)
- Galvanization of funds by the Coordination Group and other EIOS stakeholders

Enabling objective 3:

Strengthen governance capacity.

The initiative currently benefits from an advisory Coordination Group (CG) that is largely external to WHO. The CG plays a vital role in providing guidance, despite lacking formal decision-making powers. The strategy aims to enhance the effectiveness of the CG rather than overhauling it, identifying areas where members can take on greater roles such as mentoring and building linkages with PHI capacity training. Recognizing the absence of a similar body on the technology side, the strategy proposes the establishment of a voluntary Technology Group (TG) to provide guidance on technology

developments, connecting the TG with the CG through joint membership where appropriate to ensure alignment.

The high-level initiatives and activities to meet these governance objectives include:

3.1 Strengthen Coordination Group (CG)

- Enhance existing CG mechanisms for membership by revising ToR to allow members to extend their membership beyond two terms.

3.2 Establish an advisory Technology Group (TG) to provide strategic input on technology developments and direction.

High-level milestones

High-level milestones are outlined to complement the strategic framework. They represent significant steps not only in implementing the strategy and achieving the strategic and enabling objectives, but also in moving towards the outcomes defined in the strategic framework.

Important 2024 milestones include the establishment of a new technology partnership model, strengthening the already successful Training of Trainers (ToT) model by implementing enhanced selection criteria, and further building trust within the CoP by hosting a successful Global Technical Meeting in Senegal in December 2024.

By 2025, key milestones include the release and roll out of EIOS system v.2.0, the implementation of a new technology partnership model to enhance the execution of upgrades, operational tasks, maintenance, and integration efforts. Additionally, the adoption of a flexible training offer, enhanced collaboration

mechanisms through “super-communities,” and improved user management capabilities at the community level will better allocate engagement and training resources. Communities will strengthen their autonomy with the establishment of a community ToR that outlines their roles and responsibilities. Other milestones include the ECT adopting a more strategic role, delegating operational responsibilities to appropriate entities, and securing funding beyond 2025.

The milestones in 2026 include the completion of a comprehensive re-architecting of the system, resulting in 'EIOS system v.2+'. This new architecture will address the key technological needs of usability, scalability, integration, sustainability, maintainability and performance. The final milestone in this strategic period is that EIOS training will incorporate relevant PHI modules and materials. This will allow the CoP to strengthen EIOS implementation within the broader PHI landscape.

Monitoring and evaluation

A KPI framework has been developed to ensure that it effectively guides a robust monitoring and evaluation plan of the strategy. This framework (available in a separate document) will be essential for assessing the strategy’s performance and tracking progress, enabling timely insights and adjustments throughout implementation.

Risk management

An in-depth analysis of potential risks and mitigation efforts has been conducted, with the most pertinent highlighted below:

1. Maintaining Relevance of the EIOS Initiative Amidst Competing Technologies

Competing technology systems could challenge the EIOS system’s relevance; however, the initiative’s unique value lies in WHO’s convening power and a collaborative community approach. By connecting the EIOS system with other technologies, PHI communities can benefit from multiple systems without being forced to choose just one. Furthermore, the initiative's free access, combined with WHO's reliability and trustworthiness in regard to data privacy concerns compared to privatized companies, makes it unlikely that this risk will have a significant impact.

2. Strategic Prioritization of the EIOS Initiative by Communities

While the EIOS initiative is well-integrated into WHO's regional strategies, prioritization at national or organizational levels may vary. To address this, the initiative tailors support and involvement to better meet each community's unique needs. Additionally, initiatives that capture impactful stories and the creation of an evaluation framework to measure the EIOS initiative's impact will effectively demonstrate its value to governments, emphasizing the importance of prioritizing the Initiative.

3. Community Support and Collaboration within EIOS CoP

Community support within the EIOS network may be uneven due to varying capacities and willingness to collaborate. To foster engagement, EIOS plans technology enhancements to streamline collaboration and promote mentorship capitalizing on EIOS champions. Furthermore, enhanced collaboration opportunities will be offered as a part of the “super communities” initiative.

4. Engagement from Open-Source Developer Communities

The quality and volume of open-source technology contributions may be unpredictable, potentially limiting their impact. As a safeguard, open-source modules are positioned as an additional benefit to the new technology partnership model rather than a critical foundation of the system.

5. Sustaining Core Funding for the WHO Hub in Berlin

Funding for the EIOS initiative through the WHO Hub in Berlin is currently not secured beyond 2025, although current momentum and achievements make renewal of funding likely. By emphasizing tangible progress in the initial years, the Hub aims to secure continued support and showcase its value to the public health intelligence sector.

Conclusion

The EIOS Strategy 2024–2026 balances an ambitious and practical approach that reflects the high demand for the initiative, the continuous growth projected for the coming years, and the opportunities for improvement across the key areas of technology, training and community. Progressively implementing the strategic and enabling initiatives will result in tangible improvements over three years, lead to the outcomes defined in the strategic framework, and align with the impact goals of the WHO Hub in Berlin. To successfully implement the strategy, buy-in and alignment across the CoP is needed, particularly as the initiative continues to expand and decentralize. EIOS is a valued initiative that already strengthens PHI across WHO Member States, organizations and networks on a daily basis. This strategy capitalizes on this intrinsic value and ensures that the initiative serves the needs of PHI communities to better identify and respond to emerging health threats in the future.



Participants of the 2024 EIOS Global Technical Meeting in Saly, Senegal. © WHO / Geraldine Hutt

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9. The PHI curriculum is part of the Strengthening PHI Competencies initiative, led by the WHO Hub in Berlin, and focuses on capacity building by developing a skilled workforce for informed decision-making. It involves designing, developing, and implementing a comprehensive PHI Competency Framework and adaptable PHI curriculum tailored to various PHI learning profiles. This includes training modules aligned with defined competencies for diverse audiences across sectors.

