

AstroAid Virtual Forum

Official Proceedings

SpaceTech for Humanity • Sessions, Insights &
Statistics

30 & 31 August 2025

This document presents the official proceedings of the [AstroAid Virtual Forum 2025](#), a landmark event that successfully united visionary leaders from the space sector, healthcare and pharmaceutical industries, humanitarian NGOs, and cutting-edge AI healthcare innovators. The forum fostered crucial cross-sectoral collaboration, exploring innovative space-healthcare solutions aimed at enhancing global healthcare access and delivering critical humanitarian aid to the world's most remote regions.



Organizing Committee & Leadership

The AstroAid Virtual Forum was made possible by the dedication and expertise of its esteemed organizing committee and leadership team. Their collective vision and efforts ensured the success of this event, fostering crucial dialogues and collaborations across various sectors.

Chairs of the Advisory Board:

Prof. Mathieu Vinken
Dr. Adriana Thomé

Chief Technology Officer:

Prof. Dr. Mohammed Iraqi

Founder & CEO:

Ahmed Baraka

Chief Legal Officer:

Dr. Nebile Pelin Manti

Event Directors:

Yulia Akisheva
Hoda Awany

Director of Space Policy and Advocacy:

Dayana Alagirova

Legal Team Lead:

Nashide Pelin Kurtaran

Workshop Architect:

Manale Abou Dagher

For any questions regarding these proceedings, please contact us at: info@astroaid.org

Day 1, Aug. 30: Humanity & Policy

Timetable (Cairo Time)

Time	Activity Description	Speakers / Role
12:00 - 12:30	Welcome to AstroAid Foundation	Ahmed Baraka Founder & CEO
12:30 - 13:15	Panel Discussion: Space & Health - Saving Lives Across Borders	Panelists: Dr. Ulpia-Elena Botezatu Dr. Maria Moukarzel Dr. Ekaterina Kostioukhina Moderator: Annamaria Monterisi
13:15 - 13:16	Group Photo Opportunity	
13:16 - 13:45	Keynote Address: IAC Spotlight	Lisa Vitaris
13:45 - 14:00	Coffee Break & African EO Challenge Showcase	Maheen Parbhoo & Nandi Mtethwa
14:00 - 15:00	Workshop: Satellite-Powered Response to a Cholera Outbreak (Introductory Session)	Moderator: Dayana Alagirova
15:00 - 15:15	AstroAid Talk: Lighting the Path for Policy & Community Building	Dayana Alagirova
15:15 - 16:15	Workshop: Satellite-Powered Response to a Cholera Outbreak (Problem-Solving Session)	Moderator: Dayana Alagirova
16:15 - 16:45	Closing Remarks: Day 1 Wrap-up & Q&A	Yulia Akisheva

Day 2, Aug. 31: Technology & Innovation

Timetable (Cairo Time)

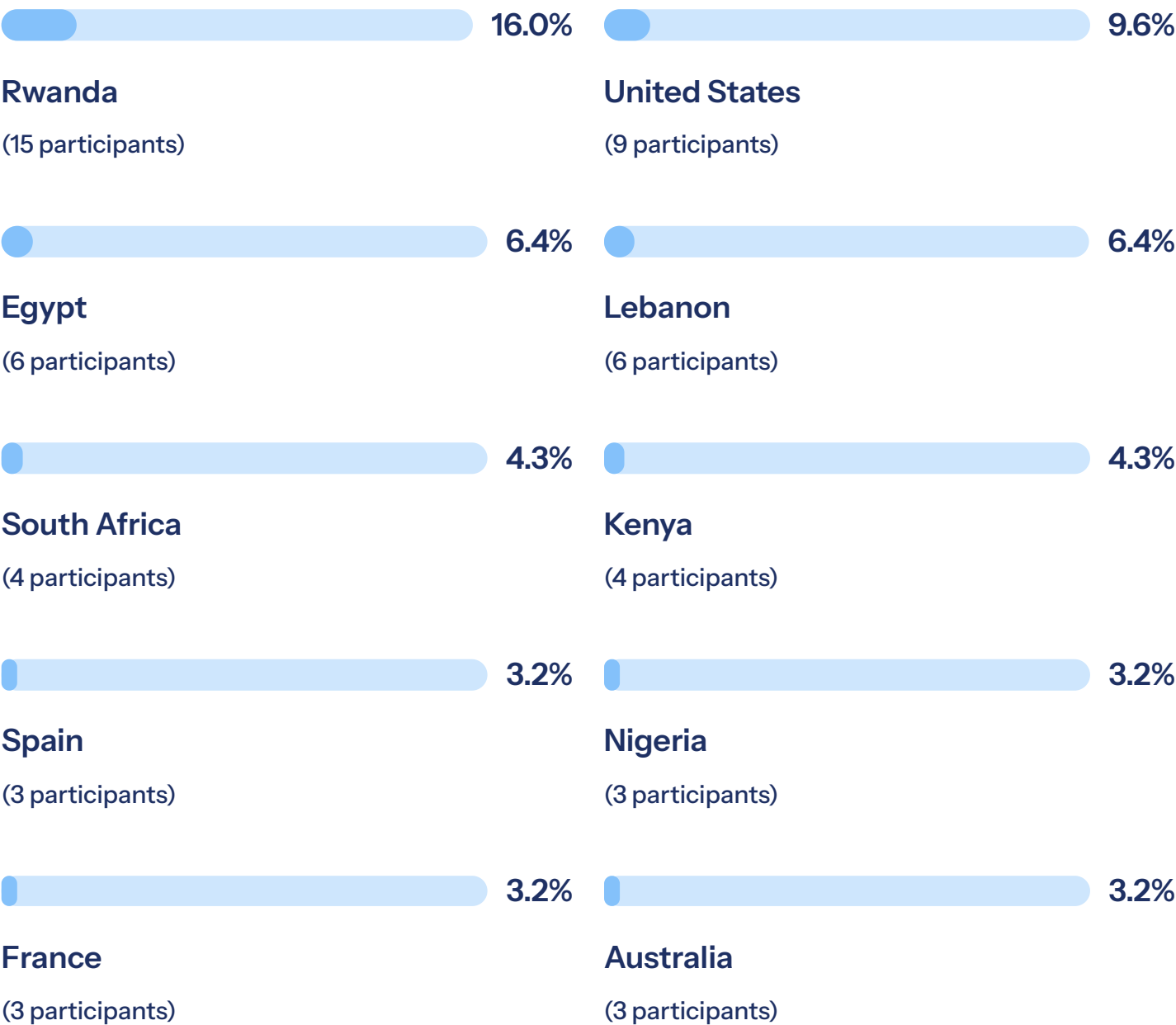
Time	Activity Description	Speakers / Role
12:00 - 12:30	Keynote Address	Prof. Mimmie Claudine Watts
12:30 - 13:30	Workshop: Satellite-Powered Response to a Cholera Outbreak (Tech Design Sprint - Introductory Session)	Moderator: Yulia Akisheva & Manale Abou Dagher
13:30 - 13:45	Coffee Break	
13:45 - 14:15	AstroAid Talk: AstroAid Pilot Project	CTO
14:15 - 15:15	Panel Discussion: Tech for Impact - Satellites, Pharma & AI in Remote Healthcare	Panelists: Dr. Adriana Cursino Thome Malak Trabelsi Loeb Dr. Li Shean Moderator: Dr. Tiffany Vora
15:15 - 15:30	Coffee Break	
15:30 - 16:00	Invited Talk from the Austrian Space Forum	Mr. Benjamin Reimeir
16:00 - 17:00	Workshop: Satellite-Powered Response to a Cholera Outbreak (Tech Design Sprint - Problem Solving Session)	Moderator: Yulia Akisheva & Manale Abou Dagher
17:00 - 17:30	Keynote Address	Allen Herbert
17:30 - 18:00	Closing Ceremony	Yulia Akisheva, Founder & CEO, Chairs

AstroAid Virtual Forum 2025: Global Participation Statistics

Here's an overview of the engagement and reach of the AstroAid Virtual Forum 2025.

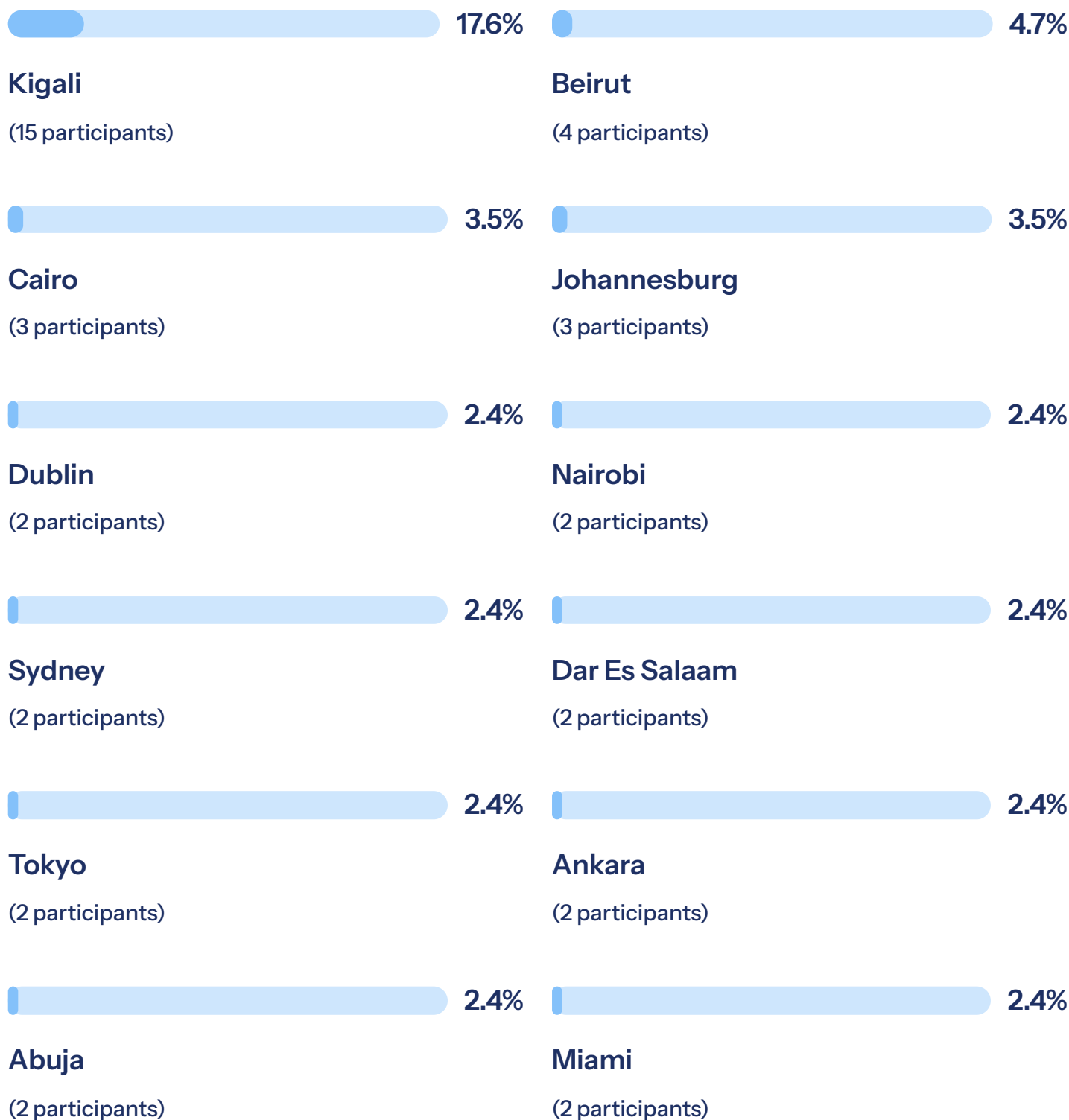


Top Countries by Participant Percentage



AstroAid Virtual Forum 2025: Global Participation Statistics – Part 2

Top Cities by Participant Percentage



Our Partners

Here are the key partners contributing to the AstroAid Virtual Forum 2025: SpaceTech for Humanity.



African School of Governance (ASG)

Kigali-based graduate institution shaping Africa's future public-policy leaders through education, research, and policy engagement. Founded 2024, focusing on purpose-driven leadership for sustainable development.



Austrian Space Forum (ÖWF)

Austrian non-profit research institution known for Mars-analog missions (AMADEE program) and advanced spacesuit simulators ("Aouda"). Active since 1998, conducts analog-astronaut training and international field simulations.



Africa Earth Observation Challenge (AEOC)

Pan-African open-innovation challenge sourcing EO/space solutions since 2016. Grows space entrepreneurship across water/food security, mining, logistics, and insurance, offering mentorship, incubation, and EO data packages.

Programme Details

Day 1, August 30th

Panel: Space & Health – Saving Lives Across Borders



This high-level panel convenes leaders from national public authorities to explore the transformative impact of space-based technologies and international cooperation on global public health. Discussions will focus on leveraging satellite-enabled disease surveillance and telemedicine for remote communities, examining real-world case studies, robust policy frameworks, and essential partnerships. The goal is to accelerate the deployment of space-derived data in critical situations, including pandemics, natural disasters, and humanitarian emergencies.

Workshop: Satellite-Powered Response to a Cholera Outbreak – Humanity & Policy (Introductory Session)



Participants will be introduced to a simulated cholera outbreak scenario, gaining insights from invited experts on its human and policy dimensions. The session will then transition into a collaborative brainstorming segment, identifying key elements for an effective and coordinated response strategy.

Workshop: Satellite-Powered Response to a Cholera Outbreak – Humanity & Policy (Problem-Solving Session)



Building on the introductory session, this segment focuses on defining core needs and challenges within the scenario. Participants will engage in problem mapping and actively co-create alliances with relevant NGOs, strategizing their involvement in the comprehensive response effort.

Programme Details

Day 2, August 31st



Workshop: Satellite-Powered Response to a Cholera Outbreak - Tech Design Sprint (Introductory Session)

This session will introduce participants to the critical technical challenges and emerging opportunities in utilizing satellite technology for outbreak response. Invited experts will provide their technical perspectives, followed by a collaborative brainstorming session to identify optimal technological applications and strategies.



Panel: Tech for Impact - Satellites, Pharma & AI in Remote Healthcare

This panel unites three leading domain experts in satellite communications, pharmaceutical development, and artificial intelligence. They will address the pivotal question: "How can we deliver effective healthcare support in resource-limited areas through space-enabled connectivity, tailored medical supplies, and AI-driven diagnostics?" The discussion will feature real-world use cases, technical deep-dives, and cross-sector perspectives to explore feasibility, overcome challenges, and chart a path toward scalable impact.



Invited Talk: Austrian Space Forum

A comprehensive introduction to the Austrian Space Forum, featuring a live feed directly from their advanced spacesuit laboratory, offering a unique glimpse into their groundbreaking research and development.



Workshop: Satellite-Powered Response to a Cholera Outbreak - Tech Design Sprint (Problem-Solving Session)

This concluding workshop session will empower participants to identify and present the most promising technological opportunities and necessary advancements required to support a robust, satellite-powered response to a cholera outbreak. The focus will be on actionable innovation and implementation.

AstroAid Virtual Forum 2025: SpaceTech for Humanity – Day 1

Quick recap

The AstroAid Virtual Forum 2025 was launched with keynotes from the AstroAid Foundation's leadership discussing their mission to deliver advanced healthcare globally by 2035 through space technology and international collaboration. A panel of experts explored how space technology can address global health challenges, highlighting successful interventions and emerging trends in satellite technology and AI. The forum concluded with workshop focused on policy coordination and stakeholder mapping for cholera outbreak responses, with participants engaging in problem-solving exercises and discussions about technological solutions and data management.

Next steps

- AstroAid Foundation: Launch the pilot project CubeSat within a year and a half
- AstroAid Foundation: Provide updates on the pilot project and first CubeSat launch during tomorrow's session
- AstroAid Foundation: Continue development of its first the public health monitoring CubeSats constellation targeted for 2030
- AstroAid Foundation: Work on building partnerships with NGOs and governments to upgrade infrastructure for telemedicine connectivity
- AstroAid Foundation: Collaborate with WHO in the near future to enhance capabilities
- AstroAid Foundation: Work with governments on developing regulations and policies for telemedicine technology adoption
- AstroAid Foundation: Develop its second satellite constellation for telemedicine applications by 2035
- AstroAid team: Develop partnerships with NGOs and governments to address healthcare delivery in remote areas
- AstroAid team: Continue the crowdfunding campaign to maintain neutrality and independence
- AstroAid team: Announce more activities at the closing ceremony

Summary

AstroAid Virtual Forum Kicks Off with Ambitious Goals

The AstroAid Virtual Forum 2025 officially launched, with Dr. Yulia Akisheva as MC. Ahmed Baraka, Founder and CEO of the AstroAid Foundation, unveiled the foundation's core mission: to deliver [advanced public health monitoring to everyone on Earth by 2030](#). This initiative aims to democratize access to critical health monitoring tools through the deployment of [two dedicated CubeSat constellations](#) for public health monitoring and telemedicine. Baraka emphasized that achieving this ambitious goal necessitates robust collaboration between governments, NGOs, and the private sector. The forum, drawing diverse participants globally, will feature keynotes, panels, and workshops dedicated to advancing global humanitarian aid efforts through policy and technological solutions.

Leveraging Space Technology for Global Health Impact

A high-impact panel explored the pivotal role of space technology and international cooperation in addressing global health challenges. Ulpia Elena Botezatu underscored the [International Charter on Space and Major Disasters](#) as a proven model for rapid data sharing during emergencies. Ekaterina Kostioukhina introduced [hibernation technology](#) from space research, showcasing its promising applications in healthcare and disaster response. Maria Moukarzel highlighted successful [space-based health interventions](#) implemented in Turkey and Sierra Leone. The panelists unanimously agreed that emerging trends, including [small satellite constellations and AI](#), offer significant potential to revolutionize global health outcomes, stressing the imperative for continued international collaboration and capacity building, particularly in low and middle-income countries.

IAC 2025 Sydney: Charting a Course for Sustainable Space

The keynote presentation focused on the forthcoming International Astronautical Congress (IAC) 2025 in Sydney, proudly hosted by the Space Industry Association of Australia. Lisa spotlighted the event's compelling theme: "[Sustainable Space, Resilient Earth](#)," which will drive a comprehensive academic program, exhibitions, and public engagement. She detailed the remarkable [growth of Australia's space sector](#) since the last IAC in 2017, marked by significant new collaborations and technological advancements. Essential information regarding registration, accommodation, and travel was also provided to facilitate attendee participation.

Day 1 Highlights

AEOC: Africa's Space Tech Innovation

Nandi, who leads the data science team at RIIIS, provided an overview of the Africa Earth Observation Challenge (AEOC), highlighting its significant growth from 10 to over 200 applications since 2015. She explained that AEOC is an annual open innovation competition focused on identifying and supporting African entrepreneurs utilizing space technologies.

The program offers comprehensive support including business development training, pitch training, and incubation. Nandi emphasized the program's focus on critical thematic tracks, such as agriculture, urban planning, climate change, and health services. It targets businesses with technology readiness levels 7 to 9 and business readiness levels 1 to 3.

She also discussed the extended application deadline to September 7 and articulated the vision for AEOC to become a catalytic force for structural shifts in innovation funding and scaling across various sectors in Africa.

Workshop on Humanitarian Coordination Challenges

The session began with Yulia introducing Nandi's presentation, which generated considerable audience interest. Yulia encouraged participants to stay connected for any follow-up questions before transitioning to the workshop segment, where attendees were prompted to change their names for enhanced networking.

Dayana then assumed leadership of the workshop, which centered on developing a satellite-powered response to a hypothetical cholera outbreak. Participants engaged in discussions about the barriers to effective humanitarian coordination during health emergencies, with "coordination" and "governance" emerging as the most frequently cited challenges.

Dayana outlined the workshop's primary goals, stressing the imperative for improved policy and coordination frameworks to facilitate faster and fairer humanitarian responses. The session concluded with the presentation of a scenario, tasking participants to address a fictional outbreak in a remote area characterized by limited resources and infrastructure.

Day 1 Highlights - Part 2

Cholera Stakeholder Mapping Workshop

This session involved a practical workshop exercise focused on stakeholder mapping for a cholera outbreak scenario in a remote area. Dayana detailed the setup, which included breakout rooms equipped with Miro boards for collaborative brainstorming and stakeholder identification.

Participants were instructed to map various entities, including NGOs, ministries, UN agencies, and local actors. The mapping exercise required them to focus on each entity's:

Roles

Specific responsibilities and functions within the response.

Inherent Strengths

Unique capabilities and resources each entity brings.

Existing Gaps

Areas where support or additional resources are needed.

Potential Contributions

How each entity can actively support the response effort.

Dayana actively encouraged questions and provided technical support throughout the exercise, noting that five groups were actively engaged in the task.

Following the mapping activity, Dayana discussed the subsequent steps, which involved:

01

Debriefing Session

Review of the mapping outcomes and findings from each group.

02

Reassignment to New Groups

Formation of new teams for a dedicated problem-solving session.

Policy & Solutions

AstroAid Policy Strategy Overview

Dayana presented a lightning talk on policy and community building at AstroAid, highlighting their focus on making space accessible and equitable through policy development and advocacy.

Strategic objectives include:

- Building visibility in global policy communities.
- Designing a humanitarian space policy strategy.
- Creating a space policy community and impact pipeline.

Dayana emphasized the importance of practical policy implementation and community engagement, mentioning upcoming workshops and events. The session concluded with a brief Q&A and a brainstorming activity on the challenges of solving crises.

Policy Coordination Problem-Solving Session

This session focused on a problem-solving exercise where participants were divided into small groups. Their task was to identify barriers, propose solutions, and prepare presentations on policy coordination.

Dayana outlined the session's objectives, stressing the need to present findings to stakeholders using concise and accessible language. Participants were encouraged to use existing policy frameworks for brainstorming and to present their ideas within a strict time limit.

The session concluded with group presentations, where Salah and Nompilo from Group 2 presented their findings, and other groups were called upon to present theirs.

Policy & Solutions – Part 2

AI and Satellite Solutions for Cholera

This session addressed challenges and solutions for cholera outbreaks using AI, satellite technology, and data management.

Group 2: Governance & Coordination

Group 2 emphasized the importance of governance and coordination between stakeholders to manage resources effectively and maintain stability during emergencies.

Group 3: Satellite-Powered AI Coordination

Group 3 proposed a satellite-powered AI coordination cell to provide real-time data and optimize resource allocation.

Group 4: Inter-Ministry Alliance

Group 4 suggested an alliance between health and environment ministries, along with satellite agencies and AI experts, to improve data collection and analysis for more effective interventions.

The discussion concluded with participants agreeing that while existing organizations offer some data, more tailored and continuous solutions are needed from an international organization for humanitarian use cases.

AstroAid Forum: Space Healthcare Solutions

The AstroAid Virtual Forum concluded its first day with a workshop focused on space-powered responses to cholera outbreaks, where participants brainstormed policy and technological solutions.

Dayana and Yulia thanked attendees for their contributions and outlined the schedule for day two, which will feature keynotes, panel discussions, and a focus on technology and innovation.

Ahmed emphasized AstroAid's mission to provide advanced healthcare access globally through space technology. Participants were encouraged to engage further by donating and spreading awareness.

The forum will continue tomorrow with a new Zoom link, featuring speakers like Professor Mimi discussing health equity and Allen sharing insights on space research for cancer cures.

AstroAid Virtual Forum 2025: SpaceTech for Humanity – Day 2

Quick recap

The AstroAid Virtual Forum 2025 focused on exploring the intersection of space technology, healthcare, and policy, with discussions covering technical presentations, workshop, and panel discussions. The event featured keynotes on health innovation through AI, a workshop on satellite AI applications, and discussion on quantum computing and AstroAid's pilot project for healthcare satellite constellations. The forum concluded with a panel discussion on healthcare delivery in resource-limited areas and a keynote address by a space cancer advocate, highlighting the potential of space research for global health improvements.

Summary

AsterAid Forum Day 2 Kickoff

Yulia and Manale discussed the setup for the second day of the AstroAid Virtual Forum 2025. They confirmed the agenda for the day, which includes a keynote by Prof. Mimmie Claudine Watts, a panel discussion, a talk by the Austrian Space Forum, and a workshop focusing on tech and innovation for health. The session began with Yulia introducing the day's objectives and welcoming participants, followed by Mimmie's keynote on ensuring equity in health innovation through AI and technology.

AI for Equitable Health Innovation

Mimmie presented on ensuring equity in health innovation through AI and technology, highlighting challenges faced by marginalized populations and the importance of inclusive solutions. She discussed her work on aging populations, migrants, and remote communities, emphasizing the need to leverage technology to bridge divides and improve access to healthcare. The presentation sparked a discussion on partnerships and solutions to address the challenges faced by vulnerable groups, with Mimmie suggesting the importance of harnessing existing resources and local knowledge. The session concluded with a reminder of the upcoming workshop on using satellite technology for humanitarian aid and healthcare in remote areas.

Technology Workshops

Satellites & AI for Crisis Solutions

Yulia led a workshop exploring how satellites & AI can complement other technologies in crisis contexts. Participants were divided into breakout groups to brainstorm tech solutions for various problems.

Group 2 focused on data organization and AI for COVID-19 prediction. Meanwhile, Group 3 explored satellite applications for communication, accessibility, water purification, and coordinating government, NGO, and community responses.

Michelle introduced blockchain-based water quality tracking, and Yara shared her work managing a global space mission for kids. The session concluded with a coffee break for networking and further introductions.

Quantum Computing and Data Challenges

Luisa discussed her work in quantum computing, pursuing a PhD in quantum optimization focused on minimizing errors in quantum computers to enhance reliability. She highlighted that quantum computers are already accessible via cloud computing platforms like IBM and Google, offering users limited execution time for problems.

The group then discussed the future of AI and quantum computing in addressing biases, with Luisa noting that bias in data collection and model construction remains a significant challenge.

Ekaterina shared insights from medical research on the importance of personalized data collection and analysis. Yulia raised questions about data collection practices in spaceflight and medical research, while Manale described her work at the Lebanese American University in building a sustainability strategy and database to address data collection challenges in various fields.

Technology Workshops - Part 2

AstroAid's Satellite Healthcare Initiative

This session focused on AstroAid's pilot project, which aims to develop two neutral satellite constellations. The first is slated for public health monitoring by 2030, and the second for telemedicine by 2035.

Ahmed Baraka, CEO of AstroAid, explained the project's goals, including Earth observation and telemedicine capabilities. He emphasized the importance of independent satellite services to prevent conflicts from affecting service availability.

The project will initially focus on Egypt and Kenya, with plans for expansion to other countries. A new platform, Health Orbital, was introduced; it will utilize AI and satellite data for public health monitoring.

The conversation concluded with a panel discussion on delivering healthcare in resource-limited areas through satellites, pharmaceuticals, and AI, featuring experts from Brazil, Australia, and the Middle East.

Key Project Highlights:

1

Two dedicated satellite constellations for healthcare

2

Public health monitoring by 2030

3

Telemedicine capabilities by 2035

4

Initial deployment in Egypt and Kenya

5

Health Orbital platform for AI-powered health monitoring

6

Independent satellite services to ensure continuous availability

Panel Discussions

Satellites & AI Healthcare Challenges

The panelists discussed the challenges and opportunities of using satellite technology and AI in healthcare, particularly in remote and resource-limited areas. They highlighted the importance of:

- Addressing legal and ethical issues (data sovereignty, privacy, accountability).
- Ensuring responsible deployment of these technologies.
- Capacity building.
- Stakeholder engagement.
- Public policy support to foster multi-tech partnerships and accelerate healthcare improvements in underserved communities.

Space Health: Challenges and Innovations

This discussion centered on the importance of a sustainable human presence off Earth and a preventative approach to healthcare in space. Key points included:

- Challenges of space health: bone density loss, muscle atrophy, and mental health issues.
- Austrian Space Forum's research simulating space conditions: heart rate changes and personalized models for analog astronauts.
- Potential applications of space research for improving health on Earth, especially in extreme environments.

Panel Discussions – Part 2

Aouda.X Suit Exploration Overview

Benjamin provided an overview of the Aouda.X suit, detailing its design and functionality for surface exploration:

- Components: Helmet, exoskeletons, and sensors.
- Demonstrations: Use of a vertical treadmill for simulating gravity.
- Ongoing Research: Combining VR with the treadmill for immersive experiences and studying human movement in different gravity conditions.
- Audience Q&A: Questions on enhancing sensors, contacting the Austrian Space Forum, and potential use of exoskeletons.

Benjamin also shared information on funding opportunities for research proposals.

Breakout Room Discussion Coordination

Yulia coordinated the breakout room discussions, ensuring smooth transitions and participation:

- Organized participants into balanced groups

- Assigned specific groups and accommodated new members

- Reminded everyone of the updated wrap-up time

- Yara volunteered to present on behalf of Group 2

- Confirmed sharing the Miro board for the presentation

This coordination ensured effective collaboration and knowledge sharing across all workshop participants.

Innovation & Research

Crisis Communication and Health Innovations

Yara presented a solution for crisis communication challenges, focusing on satellite technology and drones to overcome limited connectivity in conflict zones.

Roaa discussed a comprehensive plan for supporting isolated clinics during cholera outbreaks. This plan integrates satellite communication, AI, drones, and digital health apps.

Space Cancer Research Innovations

Allen discussed his journey as a space cancer advocate, highlighting how space research can inspire early cancer testing and screening. He emphasized the potential of space to accelerate drug testing and provide unique insights into cancer research.

Private companies, pharmaceutical firms, universities, and research centers are increasingly involved in space cancer research, with some initiatives already showing promise. Allen expressed hope for advancements in cancer treatments and called for more global participation, particularly from emerging nations.

He also encouraged individuals to actively engage in their health and advocate for more resources in space cancer research.

Innovation & Research – Part 2

AstroAid Virtual Forum 2025 Concludes

The AstroAid Foundation concluded its first virtual forum, which brought together participants from 36 countries across all continents. Discussions centered on the intersection of space technology, healthcare, AI, and policy.

Yulia and Ahmed expressed gratitude to the speakers, moderators, and participants for their contributions, noting the forum's success in attracting diverse global representation.

They announced upcoming events, including a workshop in Vienna focused on policy and technical aspects and the AstroAid Global Summit (AGS) in 2026. The ultimate goal is to develop actionable strategies to save lives through space technology.

Forum Impact & Global Reach:

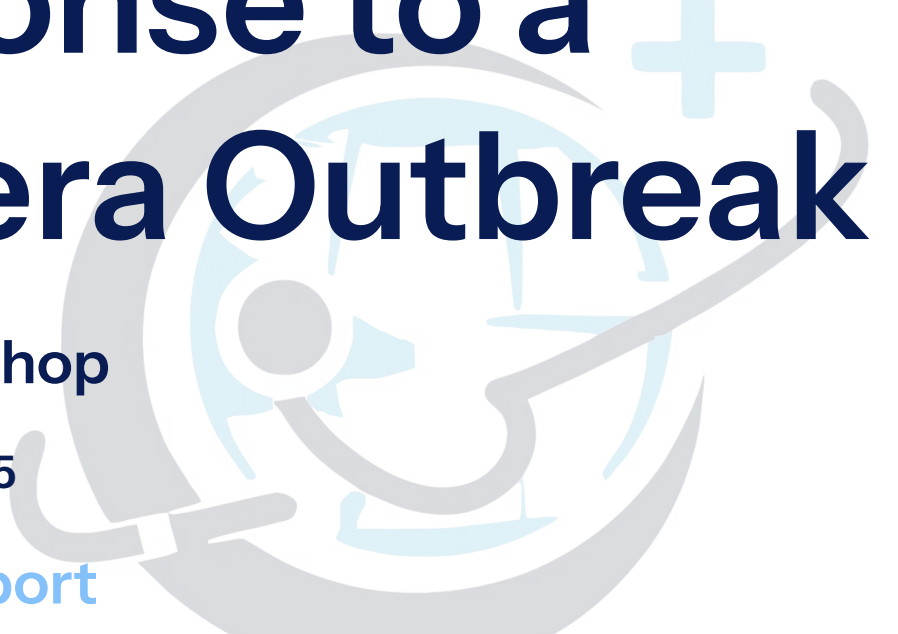


Future Initiatives:



AstroAid Virtual Forum 2025

Satellite-Powered Response to a Cholera Outbreak



Virtual Workshop

30–31 August 2025

Workshop report

Manale Abou Dagher

September 2025

ASTROAID
FOUNDATION

Executive Summary

1. Executive Summary

The AstroAid Virtual Forum 2025 convened a pivotal workshop on '**Satellite-Powered Response to a Cholera Outbreak**', underscoring the critical role of advanced technology in humanitarian crises. This interdisciplinary gathering brought together a diverse and essential group, including **students, NGO practitioners, government officials, and leading technology experts**, fostering a unique collaborative environment.

Workshop Proceedings

2. Workshop Proceedings

The workshop unfolded over two days, structured around four sessions (60 minutes each) that combined policy debates, humanitarian scenario planning, and a design sprint on innovative technologies. Participants included students, NGO professionals, government officials, and representatives from the pharmaceutical and space industries, all brought together under AstroAid's mission of **"Saving Lives Through Space Technology."**

Day 1 – Humanity and Policy

The first session opened with a powerful scenario:

"A cholera outbreak in a flood-stricken valley hosting 20,000 displaced people. With clinics overwhelmed, roads blocked, and communications cut."

Participants were asked to step into the roles of policymakers and humanitarian coordinators. Moderators guided them through probing questions—what should be prioritized first, which policies must be activated, and who the critical actors are in such a crisis.

In breakout groups, participants mapped urgent needs, including safe water, healthcare access, and communication. They also identified stakeholders ranging from ministries of health to international NGOs, recognizing both their strengths and the gaps in resources and coordination.

The second session deepened this work by focusing on problem-solving. Using structured templates, participants highlighted barriers in existing humanitarian systems, such as outdated frameworks and fragmented leadership. They proposed alliances that bridged local government with NGOs and international actors, emphasizing the role of coordination as the single most important determinant of lives saved. The day concluded with plenary reporting.

Workshop Proceedings – Part 2

3. Day 2 – Technology and Innovation

The second day shifted the lens to practical tools and solutions. The day began with an expert briefing on the Sudan cholera outbreak of 2025, offering real-world parallels.

A quick poll set the stage: most participants favored satellite mapping and portable diagnostics over drones and AI models, reflecting a preference for visible and field-ready tools. In breakout rooms, groups worked with Sprint Canvas templates to match the outbreak scenario with feasible technologies.

The second session was a fast-paced design sprint. Teams moved from brainstorming to concrete solution design, filling in canvases that addressed problems, solutions, technologies, stakeholders, and next steps.

Throughout both days, the workshops demonstrated a high level of engagement and creativity. Participants stood out with fresh ideas that bridged humanitarian realities with innovative technologies. Discussions revealed both optimism about the potential of space-enabled tools and caution about barriers such as cost, scalability, and local trust.

Optimism for Space-Enabled Tools

Enthusiasm for how space technology can revolutionize humanitarian aid and disaster response.

Caution on Barriers

Recognition of challenges: high costs, difficulties in scaling solutions, and the need to build local trust for effective implementation.

By the end of the workshop, participants had not only proposed concrete solutions but also reflected on the systemic challenges that hinder humanitarian response.

Results and Analysis

3. Results and Analysis

While lifesaving basics (water, health) remain top of mind, the lack of coordination and information flow is recognized as a systemic weakness that aggravates outbreaks.

01

Day 1-Session 1

Stakeholders identified: Ministries of Health, local clinics, WHO, NGOs like MSF and Red Cross.

Strengths noted: medical expertise, logistics capacity, global experience.

Gaps identified: weak local infrastructure, funding shortages, poor inter-agency coordination.

Potential contributions: NGOs for rapid deployment, government for legitimacy, space/tech providers for data/communication.

Discussions showed a recognition of existing strengths, but responses remain fragmented without structured coordination and modern communication tools.

02

Day 1-Session 2

Core needs: rapid water purification, better field diagnostics, reliable communication.

Challenges/barriers: road blockages, unreliable internet, lack of labs/medical supplies.

Resources available: small clinics, some local government structures.

Opportunities: partnerships with tech providers (satellite comms, drones), community health worker training.

Participants pointed to the fact that there is a mismatch between urgent needs and available resources, with innovation opportunities identified but not yet mainstreamed.

Results and Analysis – Day 2 Technology Sessions

When asked "If you were in charge of responding with technology, what tool would you deploy first?" satellite mapping emerged as the clear favorite. It was valued for its ability to locate camps, identify safe water sources, and assess flood risks in real time.

Portable diagnostic kits ranked second, recognized as essential for quickly confirming cholera cases where laboratory infrastructure is lacking.

Drones followed in third place, considered useful for delivering medicines and water purification kits to hard-to-reach areas.

AI models were chosen least often, though participants acknowledged their potential for long-term prediction and planning.

1

Satellite Mapping

Valued for its ability to locate camps, identify safe water sources, and assess flood risks in real time.

2

Portable Diagnostic Kits

Essential for quickly confirming cholera cases where laboratory infrastructure is lacking.

3

Drones

Considered useful for delivering medicines and water purification kits to hard-to-reach areas.

4

AI Models

Chosen least often, though participants acknowledged their potential for long-term prediction and planning.

These results reveal the participants' pragmatic approach to technology deployment, prioritizing solutions that can deliver immediate, tangible impact in crisis situations.

Key Insights:

- Strong preference for visible and immediately applicable tools
- Field-oriented mindset favoring practical solutions over abstract predictive models
- Recognition of satellite technology as foundational for crisis response

Workshop Outcomes: A Strategic Roadmap

The workshop systematically identified critical challenges and forged a strategic roadmap, outlining integrated solutions, key stakeholders, and actionable next steps for enhancing cholera outbreak response:

Critical Challenges: Unveiling the Bottlenecks

Participants consistently pinpointed systemic barriers hindering effective cholera outbreak response in remote, resource-limited regions:

- **Weak surveillance and delayed reporting:** Case data reaches health authorities too late for proactive intervention.
- **Limited diagnostic capacity:** Absence of local laboratories causes significant delays in confirming cholera cases.
- **Poor connectivity and coordination:** Fragmented communication severely impedes timely response and inter-agency efforts.

Strategic Technologies: Empowering the Response

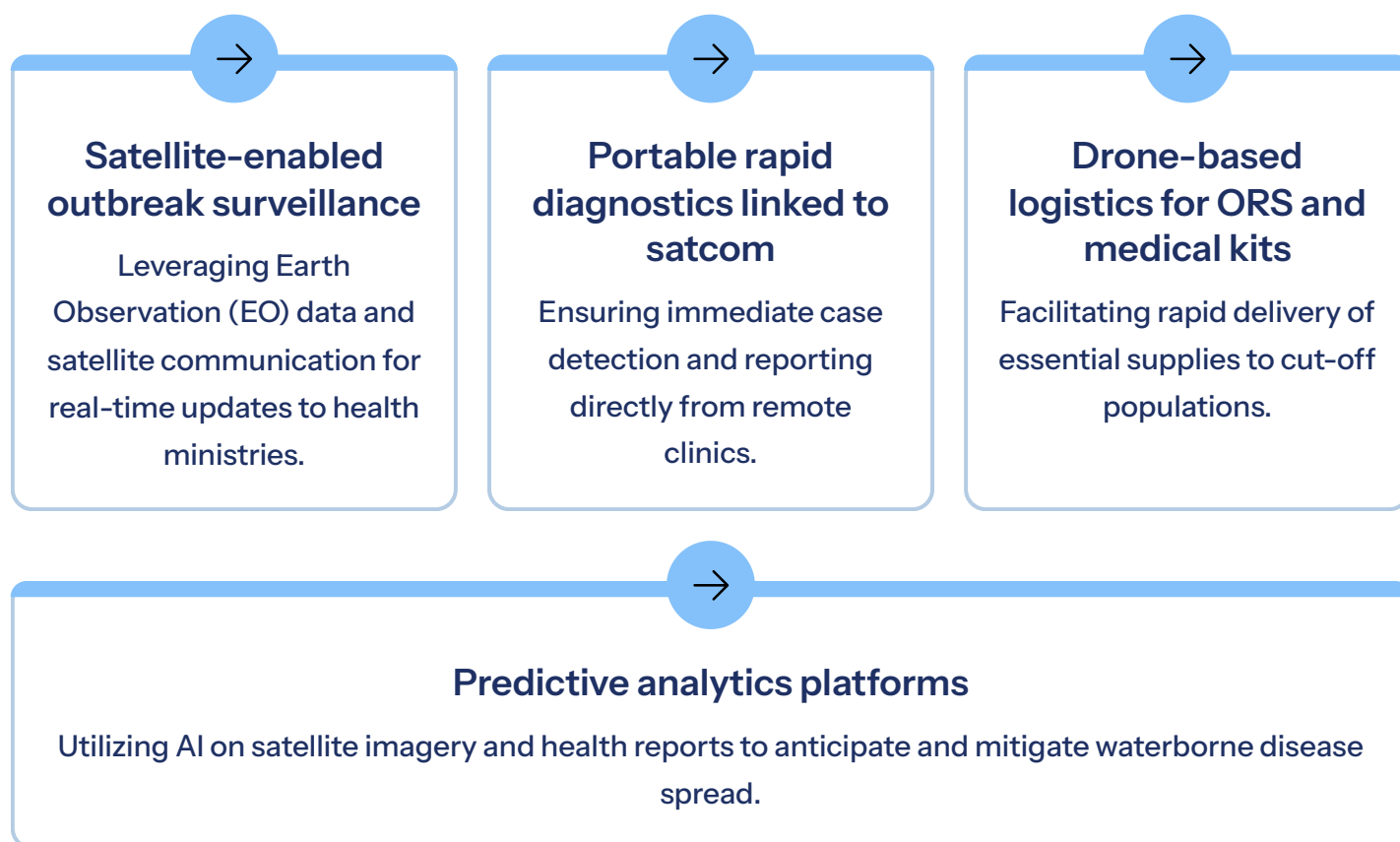
Each identified barrier can be directly addressed through the strategic deployment of specific technological innovations:

- **Satellites:** Essential for flood mapping, camp monitoring, and establishing reliable communication in network-deprived areas.
- **Portable diagnostic kits:** Crucial for rapid, on-site confirmation of cholera, circumventing the need for distant labs.
- **Drones:** Vital for closing the "last mile" gap in medical supply chains, ensuring delivery to inaccessible communities.
- **AI models:** Capable of processing complex data to predict outbreak hotspots before they escalate.

Workshop Outcomes: A Strategic Roadmap

Integrated Solutions: A Unified Response Framework

Collaborative groups proposed robust, integrated solutions that strategically combine these technologies for maximum impact:



Workshop Outcomes: A Strategic Roadmap – Part 2

Key Enablers: Mobilizing Collaborative Action

Successful implementation demands a broad, coordinated network of stakeholders, each playing a pivotal role:



Government ministries of health

Providing legitimacy, national coordination, and integration.



NGOs & humanitarian organizations

Offering critical field presence and rapid deployment capabilities.



Tech providers

Delivering innovative solutions in satellite communication, AI, drones, and diagnostics.



Local health workers & community leaders

Building trust, ensuring effective implementation, and promoting sustainability.



Donors & international agencies

Securing vital funding for piloting and scaling innovative operations.

Workshop Outcomes: Implementation Roadmap

Actionable Roadmap: Driving Implementation

Participants outlined a clear, feasible set of next steps to transition these strategic insights into practical, impactful initiatives:



Pilot testing

Conduct small-scale trials integrating diagnostics and satcom in high-risk regions.



Partnership building

Formalize collaborations between government, NGOs, and private tech sectors.



Capacity building

Train local health workers on advanced diagnostic tools, drone operation, and digital reporting.



Funding alignment

Engage key donors (WHO, UN agencies, philanthropic foundations) to secure support for scalable pilot projects.



Policy integration

Embed space and AI technologies into national preparedness and response frameworks for cholera.

Driving Strategic Impact: Conclusion and Key Outcomes

The *Satellite-Powered Response to a Cholera Outbreak* workshop, a cornerstone event of the AstroAid Virtual Forum 2025, successfully advanced AstroAid's mission by rigorously testing the application of space technologies to humanitarian crises, addressing both critical policy frameworks and cutting-edge technological innovations.

Day 1: Unearthing Policy & Coordination Imperatives

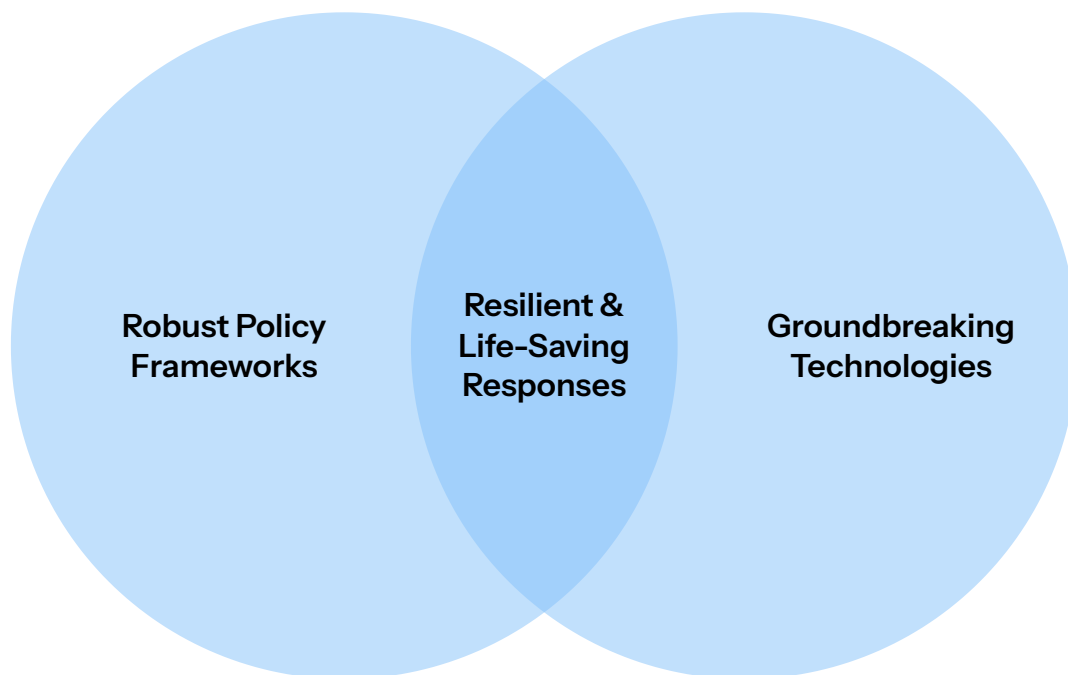
Day 1 immersed participants in a high-fidelity simulation of a cholera outbreak within a remote, resource-constrained region. Through intensive discussions and dynamic group exercises, participants not only crystallized critical humanitarian imperatives—such as immediate access to safe water, sanitation, and healthcare—but also meticulously mapped the complex web of actors in emergency response. This deep dive unequivocally exposed significant coordination and policy deficiencies, demonstrating that while foundational frameworks exist, their implementation is often outdated or fragmented. The day's findings powerfully reinforced the workshop's strategic objective: underscoring that effective outbreak response hinges less on mere resource availability and more on robust governance, seamless communication, and dynamic, multi-stakeholder collaboration.

Day 2: Pioneering Technological Integration for Impact

Day 2 pivoted towards innovation, challenging participants to strategically integrate advanced technologies—satellites, drones, AI, and portable diagnostics—to amplify response capabilities. Through focused polling and collaborative design sprints, a clear consensus emerged for the immediate utility of field-ready solutions like satellite-powered mapping and rapid diagnostic kits. Simultaneously, participants recognized the transformative long-term potential of predictive analytics and autonomous drone delivery. The innovative solutions developed by the groups validated the workshop's second core objective: proving that while technology alone cannot fully resolve humanitarian crises, its strategic integration into cohesive, coordinated systems profoundly enhances surveillance, logistics, and critical decision-making, delivering tangible value to affected populations and humanitarian efforts.

Driving Strategic Impact: Conclusion and Key Outcomes – Part 2

Collectively, the workshop stands as a testament to AstroAid's commitment to bridging policy innovation with technological advancement. It successfully illuminated that building resilient, scalable, and ultimately life-saving responses to future health emergencies necessitates the symbiotic fusion of robust policy frameworks and groundbreaking technologies, thereby elevating the capacity of all stakeholders involved.



Recommendations for Executive Action

Based on insights derived from Day 1 and Day 2 discussions, the following recommendations outline a strategic roadmap from initial concepts to scalable implementation, prioritizing actionable steps for executive decision-making. These proposals integrate policy imperatives with practical, technology-driven solutions, emphasizing business impact and feasibility.

1. Establish Strategic Pilot Programs

Implement targeted pilot initiatives in high-risk regions to validate integrated space-enabled surveillance, rapid diagnostics, and last-mile logistics (e.g., drone delivery). These pilots must rigorously assess interoperability, operational feasibility, and community integration to build scalable models for widespread deployment and demonstrate tangible returns on investment.

2. Cultivate Cross-Sectoral Strategic Alliances

Formalize robust partnerships among national health authorities, humanitarian organizations, leading space and AI technology innovators, and pharmaceutical partners. Establish clear governance structures and interoperable data protocols to ensure seamless coordination and rapid operational deployment during health crises, maximizing collective impact.

3. Institutionalize Advanced Technology in National Preparedness

Integrate satellite-based monitoring, rapid diagnostic tools, and digital reporting systems as core components within national public health preparedness and response frameworks. Ensure full alignment with international health regulations and best practices for global health security, thereby enhancing national resilience and response capacity.

Recommendations for Executive Action

- Part 2

4. Invest in Local Capacity and Training Infrastructure

Develop comprehensive training programs for community health workers and local responders, focusing on the proficient use of portable diagnostic kits, advanced data reporting tools, and drone-based logistical operations. Empowering local talent is critical for sustainable program adoption, fostering community trust, and ensuring rapid technological uptake.

5. Secure Strategic Donor and Institutional Funding

Engage key donors, multilateral agencies, and philanthropic foundations to establish dedicated funding streams for both initial pilot projects and subsequent scale-up programs. Prioritize investments in cost-effective, scalable technologies proven to deliver significant impact in resource-constrained and fragile settings.

6. Develop a Centralized Data & Communication Platform

Engineer a secure, integrated digital platform that synthesizes data from satellite imagery, diagnostic results, and real-time field reports. This centralized system, accessible to all authorized stakeholders (governments, NGOs, international agencies), will dramatically improve coordination, eliminate data duplication, and enable faster, evidence-based decision-making for optimized response efforts.

AstroAid Foundation Mission: These recommendations align with AstroAid's commitment to providing healthcare everywhere on Earth through space technology and international collaboration, supporting the development of neutral satellite constellations for public health monitoring by 2030 and telemedicine by 2035.

Event Highlights: Virtual Connections

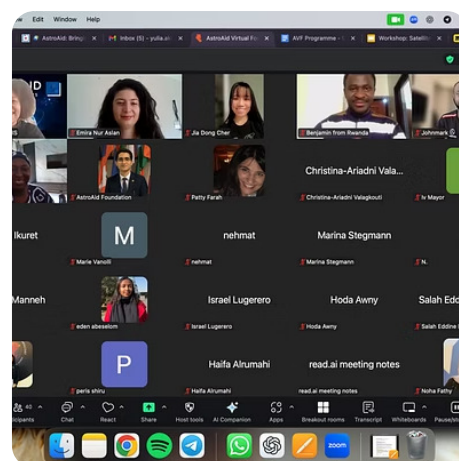
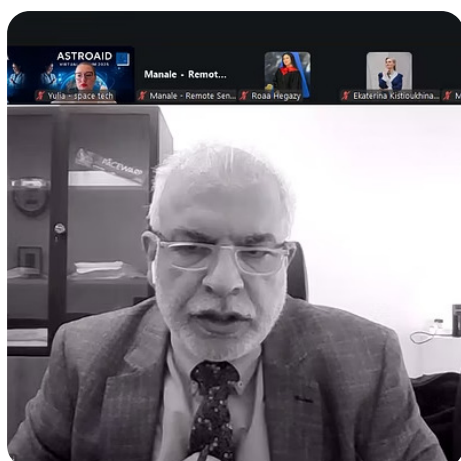
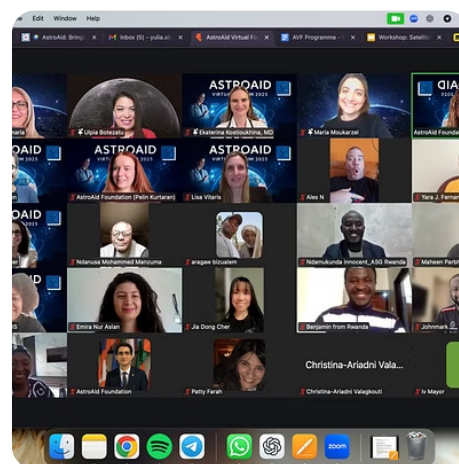
Capturing moments of global collaboration and innovation across 36 countries



A selection of moments from the AstroAid Virtual Forum 2025, bringing together innovators and collaborators from around the world.

Event Highlights: Virtual Connections – Part 2

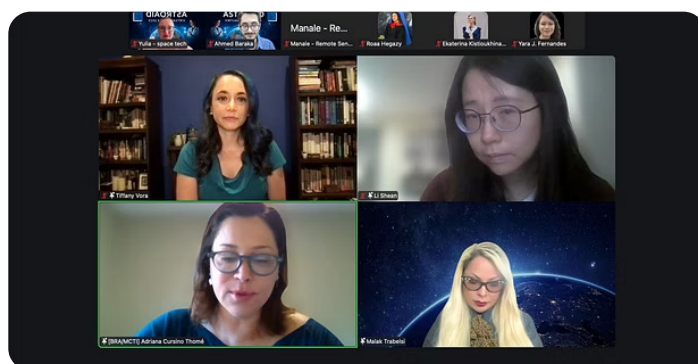
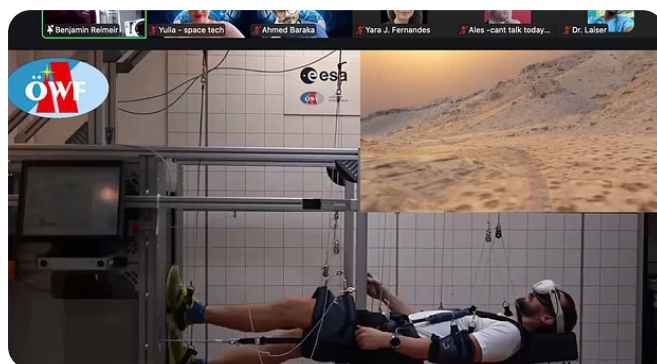
Interactive workshops and technical demonstrations



Continued highlights from the AstroAid Virtual Forum 2025, showcasing technical sessions and collaborative workshops.

Event Highlights: Virtual Connections – Part 3

Showcasing space technology demonstrations and interactive sessions



A visual journey through the innovative technology demonstrations and interactive sessions at the AstroAid Virtual Forum 2025.