IEEE Humanitarian Technologies

Global Impact, Collective Effort

2024 Annual Report

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IEEE
Humanitarian
Technologies

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A Letter from the Chairs

Dear friends and partners,

As we turn the page on 2024, we are filled with deep appreciation—for your steadfast support, your partnership, and your shared commitment to harnessing technology for social good. This annual report is more than a reflection of what we've achieved together; it is a celebration of the global impact made possible through our collective efforts.

Thanks to your belief in this mission, IEEE Humanitarian Technologies (HT) reached extraordinary milestones in 2024. Through over 143 projects spanning 68 countries, we positively impacted more than 3.5 million individuals. Our programs—Tech4Good, MOVE, EPICS in IEEE, Smart Village, SIGHT, REACH, and Empower a Billion Lives—have driven real change at the local level, equipping communities with the tools, technologies, and knowledge they need to thrive.

2024 also marked a period of foundational growth. We introduced HT's new visual identity to unify our presence within IEEE and globally. We piloted the first Tech4Good Challenge, launched new impact assessment frameworks across our consortium programs, strengthened collaborations with IEEE Regions and Societies, and laid the groundwork for a five-year strategic plan that will propel our journey forward. These steps represent more than internal progress—they reflect our shared readiness to scale impact, grow partnerships, and reach even farther.

To our volunteers, partners, and supporters: thank you. Your generosity, expertise, and passion have been central to every success story. You are helping shape a global movement where engineering with purpose isn't a slogan—it's a lived reality.

As leadership transitions, we move ahead with both reflection and optimism. One of us, Lwanga, has had the privilege of helping the IEEE Humanitarian Technologies Board take root and grow into a powerful hub for tech for social impact innovation. The other, Grayson, steps into this role with energy, experience, and a deep commitment to continuing this trajectory—toward more sustainable and locally driven technology solutions and collaborations around the world.

We are honored to walk alongside you into 2025 and beyond. Together, we will continue to apply technology for the benefit of humanity.

With deepest thanks and excitement for what lies ahead,

Lwanga Herbert

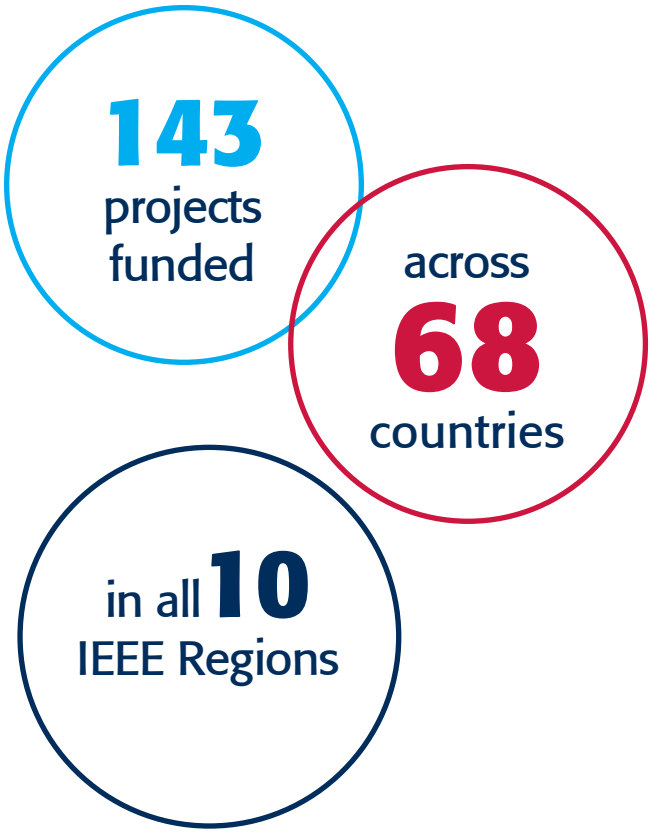
Lwanga Herbert
Chair, IEEE Humanitarian Technologies Board (2023–2024)

Grayson Randall

Grayson Randall
Chair, IEEE Humanitarian Technologies Board (2025)

Global Reach & Impact

Projects



People Impacted

~3.5MM
individuals impacted

Funding Awarded

Over
$1.2MM
in project funding

Volunteers

5,010
volunteers contributed

195,862 hours

Partnerships

58
partnerships established or engaged

Major Program Highlights – HT Consortium Programs:

A summary of each program's accomplishments and milestones in 2024 can be found in the following sections.

IEEE TECH4GOOD Driving Grassroots Innovation for Sustainable Impact

The IEEE Tech4Good program offers funding opportunities to support grassroots technological projects, led by IEEE members, that address local challenges related to sustainable development. Projects are required to address one or more of the United Nations Sustainable Development Goals (SDGs). Project teams must build a relationship with the local partner community to identify a specific need and to develop a plan to address this need through the implementation of appropriate technology. Teams take into account the relevant environmental, cultural, socio-economic, and infrastructural issues that could affect the project and its impact. Many times teams partner with local government, NGOs, schools and universities, or companies to effectively deploy the solution.

KEY HIGHLIGHTS

330+ proposals received

77 projects funded across **15** countries

4 IEEE Society partnerships launched

$597,546 awarded in grants

1 Tech4Good Challenge pilot launched (Colombia)

NOTABLE ACHIEVEMENT

Launched the pilot **Tech4Good Challenge** in Colombia—**31** teams, **120+** participants, **$10K** grants for **3** winning teams

IEEE SIGHT
SPECIAL INTEREST GROUP ON HUMANITARIAN TECHNOLOGY

Global Network for Local Change

Directly managed by HTB, the IEEE Special Interest Group on Humanitarian Technology (SIGHT) is a global network of IEEE volunteers partnering with underserved communities and local organizations to leverage technology for sustainable development. IEEE Members and non-members alike may join SIGHT, which can be a first step to getting involved with humanitarian technology activities within IEEE. SIGHT members have the opportunity to learn about the humanitarian technology programs and opportunities at IEEE and gain ideas for their own activities. SIGHT's global network has grown to more than 67,000 individuals in 130 countries, with students comprising approximately 60% of members.

KEY HIGHLIGHTS

39% membership growth over the course of 2024

260 SIGHT Groups across **54** countries

1,267 events organized

82,362 total event attendees

30 existing Groups awarded activity funding

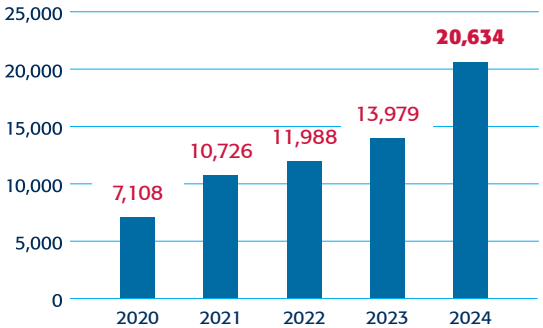
1st Groups established in Botswana and Italy

There are 260 SIGHT Groups in 54 countries that partner with their local community to use technology for socio-economic and environmental impact. SIGHT Groups are entities composed of at least six IEEE members who come together to learn about sustainable development, build relationships within their local communities, and implement projects that utilize technology to tackle key challenges their community is facing. SIGHT Groups have a strong base of volunteers who identify as female - nearly 40% of the SIGHT Group members and officers. IEEE SIGHT is supported in part by generous donors through the IEEE Foundation.

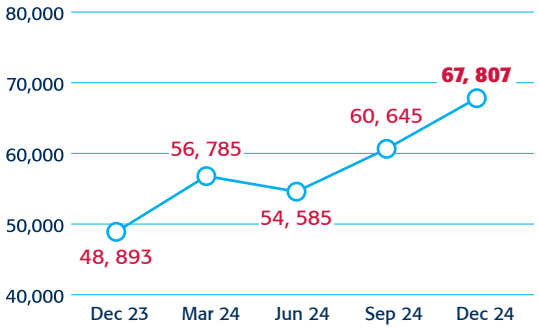
NOTABLE ACHIEVEMENTS

New SIGHT logo adopted in 2024.
Website refresh underway to modernize the SIGHT brand for 2025.

New SIGHT Members by Year



SIGHT Membership Growth Year Over (2023-2024)



MOVE DISASTER RELIEF & OUTREACH
AN IEEE GLOBAL PROGRAM

Rapid Response Technology for Disaster Relief

IEEE MOVE Global is an emergency response program dedicated to assisting natural disaster relief efforts with short-term communication and power solutions. The program provides essential services such as internet access, mobile phone charging, and lighting to help people stay connected during disasters. When not deployed for emergency relief, IEEE MOVE Global engages in community outreach and STEM education. The program uses its resources to educate the public about technology and its positive societal impacts, often through school visits and public events. The IEEE MOVE initiative is currently located in the United States, Puerto Rico, and India, with plans to expand to new countries in 2025 and beyond.

In 2024, MOVE had its first full year of operations as an HTB program. In addition to the creation of the MOVE Global Committee underneath HTB's Programs Committee, a new staff member was hired in June to support and enable the continued growth of the program.

KEY HIGHLIGHTS

Launched **MOVE-3** modular response vehicle (San Diego, CA)

6 disaster deployments

27 STEM events

30+ volunteers trained for deployments

NOTABLE ACHIEVEMENT

Debuted MOVE-3 – features a modular setup, allowing for flexibility deploying equipment to remote areas.

EPICS IN IEEE™
Engineering Projects In Community Service

Empowering Students to Engineer Social Change

EPICS (Engineering Projects in Community Service) in IEEE was brought to IEEE in 2009 from the Purdue University EPICS Model for engineering service learning projects through the IEEE New Initiative Committee (NIC) funding. The program provides US$1,000 - $10,000 grants for prototyping and project materials for service learning projects where university students work hand in hand with a community organization to solve a community challenge using engineering and technology. EPICS in IEEE helps fulfill the IEEE core purpose of fostering technological innovation and excellence for humanity. In addition to funding, the program provides support, mentorship, and visibility for engineering projects in four core categories of community improvement: Environment, Access and Abilities, Education, and Human Services.

KEY HIGHLIGHTS

15th Anniversary celebrated

900+ students and
290 IEEE members involved

$224K awarded for
39 projects

Reviewer training launched
on IEEE Learning Network

NOTABLE ACHIEVEMENT

New training tools launched to strengthen project reviews and outcomes.

15 years of EPICS impact

- **2009** Started as a SEED Grant approved IEEE New Initiatives Committee (NIC) Fist EPICS in IEEE Project
- **2014** EPICS in IEEE Fund was created through the IEEE Foundation
- **2019** Buddy the Dog Project
- **2022** UEF Environmental Competition
- **2023** Access and Abilities Competition

Accelerating Clean Energy Access Globally

The IEEE Empower a Billion Lives (EBL) competition is agnostic to energy sources, technologies, and business models. Solutions are evaluated on their technical innovation, impact, and business viability to scale to one billion customers rapidly and sustainably. Developed in 2016, the competition aims to foster innovation to develop regionally relevant, holistic solutions that leverage 21st-century technologies with exponentially declining prices. The competition is open to all; from 2017–2023, 575 teams have registered, and 120 have competed. With ongoing competition cycles driving a continuous learning process, the third round of EBL is now underway, with a Global Final to take place in 2025. Currently, 100 teams are registered to compete, and many more are expected. Since the first cycle, teams from over 75 countries have participated, and EBL has provided over US $1 million in prizes and team support. Teams must develop solutions that achieve at least 200 Wh/day (Tier 2 access) in energy supply, productive use, clean cooking, mobility, agriculture, cooling and cold chain, etc., to provide a clean, reliable, and resilient solution. Solutions must be affordable for a community where people make less than US$2.15/day; flexible; start small and expand; easy to install, use, and maintain; interoperable across vendors; and address life cycle and e-waste issues.

KEY HIGHLIGHTS

575+ teams registered since inception

100+ teams confirmed to compete in EBL 2025

$1M+ awarded in prizes to date

Participants from **75+** countries

NOTABLE ACHIEVEMENT

Launched EBL 2025 cycle with new tracks on local entrepreneurship and resiliency solutions.

IEEE smart village

Power a Village, Empower Communit

Empowering Communities through Local Enterprise

Fifteen years ago, the founders of IEEE Smart Village (ISV) had a unique vision: "Power a Village, Empower Community" by growing local enterprise. Today, the program continues its journey of "Empowerment through Enterprise." ISV is on a path to increase its output and increase its impact by mentoring a larger pool of enterprises. ISV's primary mission is to improve livelihoods and create climate resilience by mentoring local enterprises in underserved communities. The path to funding, building, and operating enterprises starts with community engagement and passion from our applicants, and empathy and diligence from IEEE volunteers. Uniquely within IEEE, ISV funds multi-year initiatives based on the productive use of technology to create long lasting impact. As it pursues this mission for benefiting underserved humanity, it also creates opportunities for IEEE volunteers for professional development including R&D and teaching, and much of the other activities that 80% of engineers perform during their careers. IEEE members provide a broad range of support from pre-application to post-contract phases. This plays a critical role in nurturing the sustainability of the enterprises in communities where such capacity is quite limited. For long-lived impact this requires volunteer mentoring and monitoring on community engagement, business planning and operation, enterprise governance etc. Such work is generally perceived to be outside the purview of the IEEE experience, and few humanitarian initiatives provide this level of long-term assistance.

KEY HIGHLIGHTS

18 new enterprises funded, 4 expanded

2M+ lives impacted since inception

$417K committed to projects in 2024

NOTABLE ACHIEVEMENT

Expanded outreach with new conferences and launched STREAM education initiatives.

Inspiring the Next Generation through History and Technology

KEY HIGHLIGHTS

13,500 users accessed resources in 2024

2,400 newsletter subscribers

IEEE REACH (Raising Engineering Awareness Through the Conduit of History), the History Center's free online, open education resource for pre-university educators, continues to be a successful program. Through the lens of history, the program focuses on the role of technology in society. The resources include inquiry-design-based lesson plans; background information; primary and secondary sources; short, engaging videos for the students; and hands-on activities. Everything is fully downloadable, so that it does not need to be streamed in the classroom if there are bandwidth issues. IEEE REACH thereby boosts technology and engineering literacy as well as soft skills such as critical thinking - attributes that are essential for students to succeed in today's world, and especially in the technology sector. At the same time, it raises students' awareness of and interest in STEM.

NOTABLE ACHIEVEMENT

Expanded STEM workshops in Africa through UNESCO partnership and IEEE events.

"I completely hit the jackpot when I stumbled into this workshop! As a history teacher I've felt completely left out of the STEM movement – this brought it home for me.

I can't wait to incorporate these resources into our curriculum."

– Katerina Karis
South Orange Middle School, NJ

Infrastructure & Strategic Development

Building Systems for Greater Impact – Impact Assessment Framework

KEY HIGHLIGHTS

- **Launched** unified impact assessment framework across 7 programs
- **Developed** common metrics across all consortium programs
- **Introduced** standardized financial metrics for HT programs
- **Offered** in-kind support to EPICS in IEEE and IEEE Smart Village so they could set up automated reporting platforms

NOTABLE ACHIEVEMENT

HTB established a unified metrics system to better measure, evaluate, and communicate the global impact of its programs. Tools now track volunteer hours, funding, partnerships, and community outcomes.

- **143** Projects
- **68** Countries
- **$1,252,460** in Funding for Projects
- **3,493,458** Individuals Impacted
- **1,342** Events
- **90,305** Event Attendees
- **2,654** Downloads of Online Resources
- **264** Trainings
- **5,010** Volunteers
- **195,862** Volunteer Hours
- **58** Partners

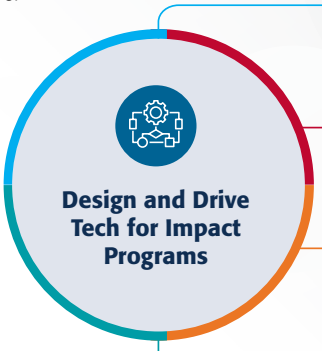
Five-Year Strategic Plan

KEY HIGHLIGHTS

Developed around 5 pillars: knowledge hub, impact infrastructure, mission-driven programs, scalable partnerships, and thought leadership.

OUR VISION

IEEE volunteers around the world carrying out and supporting impactful Humanitarian Technology activities at the local level.



OUR PILLARS

Become the Center of Humanitarian Expertise & Knowledge

Aggregate and provide knowledge and expertise in humanitarian technology to fuel the design, training, education, optimization and implementation of initiatives for maximum efficacy.

Establish Infrastructure for Impactful Programs

Establish program management rigor including framework to track impact metrics, best practices, progress tracking mechanisms and supportive tools to identify gaps and provide actionable recommendations for long-term project sustainability.

Amplify IEEE's Role in Tech for Social Impact

Highlight the impact of humanitarian technology through targeted outreach, joint marketing and communication strategies, joint events, publications, and public policy, to promote public understanding and awareness and importance and the role of humanitarian engineering for social impact.

Achieve Scale through Partnerships

Leverage our global reach and technical expertise to scale successful humanitarian technology initiatives and drive sustainable change through mission aligned collaborations within and beyond IEEE.

Partnering for Impact

Building Collaborative Networks for Greater Change

KEY HIGHLIGHTS

Formalized partnerships with **4** IEEE Societies

Launched pilot collaboration with IEEE Region 8

Supported **20+** regional events and funded multiple local projects

The Partnering for Impact program was designed with the idea of working with IEEE Societies and Regions through initial ideation sessions to support their current strategy for humanitarian tech initiatives as well as to enable the co-design of new programs that apply technology to achieve positive social, economic, and humanitarian impact at a larger scale aligned to their unique goals.

By combining the humanitarian expertise and impact infrastructure provided by HTB with the technical capacity and geographic reach of IEEE Societies and Regions, the partnering for Impact program will support the creation of a powerful ecosystem of mission-driven programs that address global challenges and create sustainable impact. The high level approach includes:

- **Reviewing** the Region's approach to humanitarian activities, including current programs, investment, opportunities for improvement, and perceived impact.
- **Co-creating** new initiatives and programs aligned to the goals of the Region and current best practices in humanitarian technology sectors - including timelines, budget, business planning and other key considerations.
- **Combining** expertise and resources to launch the new initiative(s).

- **Iterating** and defining a longer-term strategy, acknowledging the need for a repetitive process that includes: an analysis of the impact achieved through the establishment of metrics, tracking of progress, and the development of robust case studies. Gaps identified will allow for adjustments and a path forward for greater effectiveness while showcasing impact on world-recognized platforms. This will include advising on impact infrastructure strategy for the investments in current HT consortium initiatives to enable the tracking of impact metrics and the reiteration to bridge gaps and solve inefficiencies in the reporting mechanisms.

HTB will continue to build on this work in 2025 and collaborate with the Societies in rolling out the new humanitarian technology strategies and newly designed initiatives. The rollout will be preceded by a clear end-to-end program development process to ensure success and a robust plan for sharing results widely through the development of public facing assets and presentations to audiences at IEEE and beyond.

NOTABLE ACHIEVEMENT

Continued to grow collaborations with **IEEE Societies and Regions** to co-create new initiatives.

Community & Volunteer Focus

HIGHLIGHTS

- **Conducted research** on volunteer experiences and community engagement practices to improve project outcomes and volunteer journeys.
- **Launched new benefits** for SIGHT Groups and developed onboarding/training infrastructure for volunteers.

To complement the work being done to establish a framework for impact assessment, HTB worked with experts in impact assessment for humanitarian technology programs from the University of Colorado, Boulder to conduct initial research into two topics vital to HTB's work: Community Engagement in Engineering Projects and Volunteer Experiences and Journeys in Humanitarian Engineering Projects ("User Journey"). These topics are particularly relevant to the Tech4Good project funding program, but also will yield information to help drive improvements and adjustments across all programs of the IEEE HT consortium. The user journey research will illuminate the touch points and gaps between HTB offerings and can support the design of programs that are more cohesive and provide wider opportunities for IEEE volunteers at all stages of their career development.

Ongoing research on these important topics will likely continue in 2025 as HTB builds the infrastructure for humanitarian technology activities at IEEE.

People
Leadership Transition, Board, Staff

Leadership Transition

KEY HIGHLIGHT

The outgoing chair, Lwanga Herbert (2023–2024), oversaw HTB's growth from its predecessor the Humanitarian Activities Committee into a fully functioning Board.

In January 2025, HTB will welcome a new Chair - Grayson Randall, a long-time IEEE member and one of the founders and active members of IEEE MOVE. Grayson is an IEEE Senior Member and the IEEE MOVE Operations lead in the United States. He is responsible for the IEEE MOVE trucks and associated equipment that is deployed to natural disaster sites in the United States to support emergency communications. Grayson has been on the IEEE Future Directions Committee and remains active in IEEE Region 3 activities. His professional background is in digital communications, robotics, public safety and emergency response. Throughout the years, Grayson has demonstrated his passion and commitment for IEEE and its humanitarian activities.

HTB and the HT staff team are very thankful for the unwavering leadership and tireless efforts of the 2023 - 2024 HTB Chair, Lwanga Herbert. Lwanga served as the inaugural Chair of HTB, guiding the early stages of the transition from its predecessor the Humanitarian Activities Committee (HAC). During his tenure, HTB began to fulfill its new role of providing support, oversight, best practices, coordination, and unified messaging for humanitarian technologies across IEEE; enhanced and expanded with many IEEE entities; and continuously improved and refined programs and activities inherited from HAC.

2024 Humanitarian Technologies Board Members

Lwanga Herbert, Chair

Sampath Veeraraghavan, Immediate Past Chair & Chair of the Partnerships Ad-Hoc Committee

Karen Panetta, Treasurer & Chair of the Finance Committee

Maxwell Addison, Chair of the Outreach Committee

Simay Akar Koehler, Geographic Activities Representative & Chair of the Best Practices and Projects Committee

Emre Ayranci, Technical Activities Representative

Peter Clout, Co-Chair of the Programs Committee

David Durocher, Technical Activities Representative

Mohamed Essaaidi, Co-Chair of the Programs Committee

Stephanie Gillespie, Educational Activities Representative & Chair of the Education Committee

Matthew Imhoff, Chair of the Project Monitoring Subcommittee

Jayakrishnan MC, Co-Chair of the Events Committee

Vikass Monebhurrun, Standards Association Representative

Magdalena Salazar Palma, Chair of the HTB Governance Ad-Hoc Committee

Pia Torres, Chair of the Proposal Evaluation Subcommittee

Adil Usman, Co-Chair of the Events Committee

Andres Navarro Cadavid, Corresponding Member

Kayna Mendoza Trujillo, Non-Voting Member & Young Professionals Representative

Board of Directors Coordinator

Christopher Root

Professional Staff

Donna Hourican, Staff Executive, Corporate Activities

Mariela Machado Fantacchiotti, Senior Director, Humanitarian Technologies

Ananda Grant*, Director, Humanitarian Technologies & Impact

Julianna Pichardo, Manager, Humanitarian Activities & Sustainable Development

Becky Boresen*, MOVE Program Manager, Humanitarian Technologies

Brittany Chubbuck*, Project Specialist, Humanitarian Technologies

Betsy Toland, Finance & Operations Administrator

*New in 2024

Looking Ahead to 2025

HTB is excited for what the future holds and recognizes that the work accomplished in 2023 and 2024 will serve as an invaluable foundation for the efforts in the coming years. Initial plans for 2025 have been outlined by HTB's current members and committees. Plans to be confirmed by the incoming 2025 members may include:

- **Implementing** the five-year strategic plan.
- **Supporting** existing programs and developing new programs that enable volunteer engagement across humanitarian technology activities at IEEE and align with best practices in the humanitarian technology sector. This will include the results of the ideation sessions currently underway with several IEEE Societies and Regions alongside the improvement of current programs such as Tech4Good Challenges pilot.
- **Iterating** frameworks to track progress and measure impact of all the consortium programs across IEEE.
- **Improving** the processes and continuing to the automation of the HT program's data collection to increase quality and quantity and better demonstrate how IEEE is achieving social and environmental impact.
- **Implementing** the marketing strategy to enhance outreach and begin promoting the new website through existing social media channels and beyond.
- **Exploring** internal and external partnerships to enhance collaborations aligned to the HTB goals and objectives.
- **Aligning** sponsored events even further to HTB's strategic approach and becoming more involved with the organization of several key events.
- **Mapping** the gaps and opportunities of IEEE's humanitarian technology programs to support and enable the ecosystem to grow and become more cohesive.

With the continuation of existing efforts from volunteer leaders and HTB members together with support from its staff team, HTB is well-poised to guide and support humanitarian technology activities across IEEE, provide meaningful insight into effective best practices, and leverage the strength and reach of the IEEE network to apply technology for social impact. The development of a strategic plan has helped prepare HTB to become the hub for the younger generation of volunteers who want to leverage technology for the benefit of their local communities to solve the most pressing challenges of today's world.

Opportunities to Get Involved

The consortium of IEEE HT programs leverages the strength and reach of the IEEE network to make a difference in local communities around the globe. There are many ways to get involved, including:

- **Volunteering** time and skills to ongoing initiatives
- **Applying** for funding to deploy an innovative technology solution that solves a local challenge
- **Donating** money to the IEEE Foundation to support the work of each program
- **Spreading** the word about IEEE HT and encouraging others to get involved

Visit the IEEE HT website for a portfolio of ongoing opportunities for related grants, competitions, and career development; and information on how to contribute to efforts through volunteering, partnering, and donating.

IEEE Humanitarian Technologies

Contact

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ieee.org

IEEE Humanitarian Technologies