Impact Report 2021

Staying Connected in a Changing World

Internet
Society

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Foreword

Andrew Sullivan
President and CEO of Internet Society

Since the Internet Society was founded in 1992, we have always worked to ensure that everyone can enjoy connectivity and the opportunity it brings.

The ongoing presence of COVID-19 throughout 2021 continued to show us the importance of the Internet. People depended on it to help sustain them through the pandemic. Because of its design, the Internet kept on working even as more and more demands were made of it.

The pandemic also highlighted the unequal burden placed on those who are disconnected or have inadequate connectivity. The question is how fast could we extend connectivity for business to continue, for children to learn, and for people to stay in touch. Furthermore, social developments around the world, including armed conflicts, tested the Internet with attempts to shut it down, impede it, or limit its capabilities. We cannot now doubt, if we ever could, the importance of an open, globally connected, secure, and trustworthy Internet.

In this environment of 2021, the Internet Society labored to grow and strengthen the Internet. All of us worked not only to increase the reach and reliability of the Internet now, but also to ensure its solid future. We trained people to build new networks and solve their own connectivity challenges. We connected communities, strengthened Internet access, influenced policy decision-making, and defended the Internet against attempts to undermine it.

Many people played their part all year in growing and strengthening the Internet. I hope you are as inspired as I am by the stories of commitment and success in this report.

Our task is not over. As long as the Internet faces threats from those that want to control it, own it, or shut it down, the Internet Society will keep striving to ensure that the Internet is for everyone.

Introduction

There's been a seismic shift in how the world uses the Internet.

For many, the Internet has become the foundation of our lives. It's steadfast. It doesn't buckle during times of crisis but bends to meet new challenges.

Communities now rely on the Internet without giving much thought to what makes it work or who makes it possible. Its stability gives us stability and independence, allowing people on almost every continent to move seamlessly between their offline and online lives.

The Internet helps us keep our footing while the world changes.

Yet billions of people must navigate this changing world without trusted, reliable Internet access.

How can we make sure everyone can access basics—healthcare, work, human connection?

And who is advocating for communities who find themselves on the wrong side of this digital divide?

The Internet Society, fueled by a new sense of urgency in 2021, created a roadmap to address these questions. We outlined how, with our global community, we can grow and strengthen the Internet for future generations to enable an Internet that is open, globally connected, secure, and trustworthy. This impact report offers our assurance that we remain committed to this path.

The world is shifting. The stakes are too high to leave anyone behind.

Growing the Internet

There remains a troubling pattern of digital divides. Globally, approximately three billion people lack Internet access, with people in developing and least-developed countries far more likely to have a dearth of access than those in developed countries. These divides are also widening between rural and urban areas, along income, gender, and ethnic lines, and for people with disabilities. In areas with access, inadequate local infrastructure can make the Internet slow and costly, essentially putting it out of reach for many people, while Internet shutdowns can put entire countries in the dark.

We continue to address these deepening divides with community-supported infrastructure and advocacy efforts. Working in close collaboration with local champions, we built and expanded 33 community networks in 2021, empowering communities in Africa, Asia, the Caribbean, Europe, and North and South America to create their own Internet connections.

For networks to thrive, communities need the right skills, the right policies, and the right resources. That's why in 2021, we funded more than 300 scholarships for the 2021 Inter-American Telecommunication Commission (CITEL) course on building wireless community networks in Latin America and the Caribbean, empowering a new generation to create connections with and for their communities.

Our advocacy work further includes promoting public policies that support community networks. Consider, for example, our work with Zimbabwe's regulator and national operator TELONE to establish the Murambinda community network. This project helped inform changes to Zimbabwean regulation in 2021 to allow the use of 2.4 and 5 GHz spectrum for rural broadband connectivity.

After we advocated with the Association for Progressive Communications, the Communications Authority of Kenya drafted a Licensing and Shared Spectrum Framework for Community Networks, which initiated a review of regulatory fees. Additionally, after the Internet Society provided comments, the Ethiopian Communications Authority changed its draft directives for the telecoms market. It now allows community networks.

Similarly, in Papua New Guinea, we worked with the regulator to establish the island's first community network, which was funded using the government's Universal Access and Services Fund. Seeing the pilot's success, the regulator included community networks in its 2022 project proposals for the fund, opening new doors for financing.
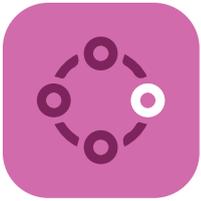
Regulatory Changes Open the Door for First Community Network in Ethiopia

Preparations are under way for a new community network to bring Internet access to nearly 5,000 people in the unserved rural community of Abichikili and two nearby towns in northwestern Ethiopia. The Internet Society remains committed to growing the peering ecosystem through the development of Internet exchange point across the globe and to strengthening interconnection so that the Internet is cheaper, faster, and more resilient.

It all began with the Ethiopian government's decision to liberalize the telecommunications market in 2019, for which it created a new regulating body: the Ethiopian Communications Authority (ECA). The new agency published draft directives in 2020 and opened them to public consultations.

"This is huge because these directives will remain for years to come," says Dawit Bekele, the Internet Society's regional vice president, Africa. The Internet Society enlisted its Ethiopia Chapter and created a consortium of partners that jointly submitted comments, urging the ECA to legalize community networks, among other changes. The draft directives were then updated—including community network authorization—and approved in July 2021.

We pushed forward by leading a series of technical discussions with ECA authorities to share international experiences of community networks, including those in Kenya and Zimbabwe.

The Internet Society also signed a Memorandum of Understanding with Ethiopia's Ministry of Innovation and Technology in 2021 to collaborate in the implementation of the country's new Digital Transformation Strategy, which seeks to build Internet infrastructure and expand community networks, grow connectivity in rural areas, strengthen Internet governance, and improve digital services.

> **We don't just want to deploy the Internet, we want to make sure people can use it for development. We want agriculture to be supported by the Internet so their farming can become more modern. There is immense importance to this, for access to information, education, agriculture, and health benefits.**
>
> **Tesfa Tegegne**
> Director of Bahir Dar University STEM Incubation Center and the technical head of the community network project in Abichikili

He adds, "There is immense importance to this, for access to information, education, agriculture, and health benefits." As just one example, he notes, "We want agriculture to be supported by the Internet so their farming can become more modern."

Making the Most of Spectrum

Access to spectrum, which allows people to transmit data via radio waves, is key to empowering communities to make their own connections. Advocating alongside organizations like the Dynamic Spectrum Alliance, we continued urging countries to increase the amount of available licensed spectrum, lower its cost, and free the use of unlicensed spectrum for Wi-Fi solutions.

In 2021, eight countries opened spectrum space to Wi-Fi: Brazil, Canada, Chile, Colombia, Costa Rica, Guatemala, Honduras, and Peru. There are ongoing consultations in Argentina and Mexico as well, to make spectrum available to community networks.

Yet even with the new bandwidth achieved in 2021, spectrum affordability remains an issue for many communities. Increased connectivity needs for work, school, communication, and entertainment may require people to buy more expensive data packages, notably for pre-paid mobile broadband data. In some communities with limited availability, not even this approach is possible. For example, an estimated seven in 10 residents of rural tribal lands in the United States lack access to fixed, high-capacity, affordable broadband. To address this, in 2021 we backed training, funding, and advocacy efforts to empower these tribal communities to access free spectrum offered by the Federal Communications Commission under a special license. So far, at least 200 tribes have licenses, and several community networks are being planned, built, or expanded.

Spotlight Story

Spectrum Access Helps One Tribal Community Weather Emergencies

It was the summer of 2021. Wildfire smoke was making it difficult for a resident of the Yurok Tribe in Northern California to breathe. Using a Wi-Fi phone, his niece called for help. Soon a public health officer was able to move him down to the coast, away from danger. It was a chain of events that wouldn't have been possible a few years ago.

Seventy percent of Yurok lands lack electricity. Its complex terrain—with mountains, river valleys, and thick redwood forests—has deterred Internet service providers from investing. This is compounded by the low potential for profit: Yurok's 6,380 residents earn less than 80 percent of the U.S. national per capita income.

In 2013, the tribe created its own small community network, providing a barebones 1Mb service (up to a premium of 5Mb) to the 175 homes and businesses that could get a signal.

The tribe then applied for a spectrum license, which they received in March 2021. Next, they built a solar-powered wireless tower in the village of Requa, equipping it with fire and weather cameras.

These activities dovetailed with the Internet Society's hands-on Tribal Broadband Bootcamp, hosted in July 2021. The week-long event focused on building community networks for tribes like Yurok which had received free spectrum through the FCC. "I wasn't sure what the 2.5Ghz spectrum could do for us, but we applied for it anyway," says attendee Jessica Engle, the information technology director for the Yurok Tribe. Engle says the bootcamp convinced her tribe to create a Yurok Telecommunications Corporation to manage its community network.

By the end of 2021, the Yurok tribe's network had grown nearly 50 percent, reaching 250 homes. Their ultimate goal is to reach all 921 addresses.

"If you have an emergency, you know you can call someone now," says Mindy Natt, a resident of a recently connected area in the Pecwan District. "Getting the Internet and Wi-Fi phone was huge for us because we're able to call as if we have cellphone service," she says. With Indigenous populations more at risk of COVID-19, especially elders, Natt says having emergency communication is even more urgent for medical emergencies, natural disasters, or traffic accidents.

Today, Engle says, many residents are doing distance learning for the first time. One resident shared her excitement at talking to a therapist via the Internet. Yurok's Chief Tribal Judge, an elder, can even hold court from home with Zoom.

The Yurok Tribe also received a US$40,000 Internet Society grant to build a second tower. The tower will be installed in 2022, reaching the most populated area on the reservation.

[The Internet Society has] given us resources and connected us with other tribal communities. But they support us to solve our problems ourselves. They just want to know how they can help.

Jessica Engle
Tribal Broadband Bootcamp attendee

Going Above and Beyond Access

Online traffic continued to grow in 2021, pushing Internet infrastructure and capacity close to its limits. Some networks saw an increase in traffic of up to 60 percent during peak hours. Overall, global Internet bandwidth rose 29 percent in 2021—less than 2020's COVID-driven increase, but still nearly tripling since 2017. With global data consumption growing 283-fold from 2011 to 2021, we need robust infrastructure to support the Internet's growth, both during times of crisis and periods of relative calm.

Internet exchange points (IXPs) are part of healthy Internet infrastructure. By keeping traffic local, they make the Internet faster, cheaper, and more reliable. In 2021, we supported six new IXPs: Colombia, the Democratic Republic of Congo, India, Mexico, Pakistan, and Peru. We also strengthened 20 existing IXPs by donating equipment and providing technical training.

Spotlight Story

Boosting Internet Exchange Across the Americas

The 7.2 magnitude earthquake struck Haiti in August 2021 just as many people were starting their day. Over the course of several days, the quake and its aftershocks devastated the country, leaving more than 300 people dead, injuring hundreds more, and leveling homes, schools, and churches. But Haiti's IXP managed to stay online, keeping the Internet running at a time when it was needed the most.

Internet resilience in the face of natural disasters has been a major driving force for Haiti's IXP. Established in 2009, its membership has grown over the years from five to a dozen, including four of the country's five Internet service providers, Haiti's domain name registry, and five major content delivery networks. Their commitment has made a difference. With funding from the Internet Society and other organizations, Haiti's IXP now has additional servers, management software, and automation tools, making the Internet in Haiti even more resilient.

In Panama, we worked to strengthen the country's InteRed IXP. Established in 1997 as one of the first IXPs in the region, its growth later slowed, and its capacity began waning. In 2021, the donation of key equipment and training by the Internet Society helped reinvigorate the IXP, driving traffic and attracting new members.

In Bolivia, a similar story unfolded. In the years since its launch in 2013, PIT Bolivia's IXP experienced stagnation. Today, PIT Bolivia has doubled its traffic every six months—rising from 1.4 Gbps in February 2020 to 13 Gbps in November 2021.

In support of this effort, the Internet Society donated switches, enabling PIT Bolivia to double its capacity, and provided Mutually Agreed Norms for Routing Security (MANRS) training to help secure Internet routing. These improvements have helped boost traffic, membership, and performance, reducing latency from 600–700 milliseconds to 11.

> **The Internet Society is like our angel. It is a regional articulator, enabling this type of project to work.**
>
> **Carlos Sanabria**
> PIT Bolivia IXP's General Manager

By supporting these and other IXPs across the world, we're helping to make the Internet faster and more affordable and more reliable for everyone, everywhere.

Understanding the Internet and Its Impact on Our Lives

We can't address the issues facing the Internet if we don't have strong data to guide our work. The Internet Society Pulse platform curates data from trusted sources to provide a clearer picture of the health, availability, and evolution of the global Internet.

In 2021, we added more data to Pulse by collaborating with 21 new data partners. We also added two new focus areas to make the platform an even better resource for understanding the current state of the Internet, from its resiliency to how it's concentrated. Further, we recorded 49 government-mandated Internet shutdowns, which totaled 1,076 days of disruption. These 17 full national shutdowns, 26 regional disruptions, and six service limitations were more than just points of data. They represent real-life consequences for the millions of people affected by these human-made disruptions. Internet shutdowns harm societies and economies, preventing people from earning a living, from conducting business online, and from accessing financial, education, or healthcare services.

Spotlight Story

Harold Adjaho, Benin Chapter President

Security consultant and engineer Harold Adjaho joined the Internet Society Benin Chapter after organizing the Benin DNS Forum in 2015. He quickly moved up the ranks, becoming the chapter secretary in 2018 and president in 2020.

Adjaho has moved swiftly to implement an ambitious list of 36 projects during his two-year term. These range from routing security training to creating ecological community networks to increasing children's awareness of online exploitation. (Watch him in the Benin Chapter's Chapterthon entry introducing Eniola, a digital skills education app geared toward young people, especially girls.)

He also led the chapter in its successful advocacy against Internet shutdowns. During the lead-up to Benin's presidential elections in 2021, with protests intensifying and social media interruptions being reported, many feared a repeat of the 24-hour Internet shutdown during the 2019 legislative elections. The Chapter proactively launched a campaign, reaching out to local and international rights organizations, including Access Now and Amnesty International. The Chapter contacted local media, promoted #CoupezPasInternet (#DontCutTheInternet) social media messages, and published an open letter and publicized it through a Facebook live conference and Tweetup, garnering international media coverage. Adjaho and his team later monitored Internet outages and saw no disruptions.

The Benin Chapter shows that when local and global advocates amplify each other's voices, they can help reduce Internet shutdowns.

Strengthening the Internet

As the world evolves, Internet security and trust must keep pace. Telework, e-learning, telemedicine, online financial transactions, e-government, and online advocacy continued to grow in 2021. Cybercrime also went up by a factor of six since the beginning of the pandemic, according to some estimates. In response, the Internet Society shifted, too. We enhanced tools empowering people to protect their data, helped secure global routing, and, as always, safeguarded the bedrock of the Internet itself.

Protecting the Internet's Core

The Internet has proven to be resilient during the upheaval of the past few years. In other words, it's working exactly like it's supposed to.

To keep it this way, we've developed the Internet Impact Assessment Toolkit to see how a policy, business decision, or technology could affect the Internet. In 2021, we added the Internet Impact Brief: a quick analysis to help policymakers make better decisions about the Internet and decide if a deeper analysis is needed. With our community, we produced Internet Impact Briefs to look at emerging policies in Asia, North America, and Europe.

In the Americas, we also advocated against Canada's Bill C-10 (Online Harms Act) with a letter to the Prime Minister. This helped delay the bill's consideration by the committee, leading to its demise with the parliamentary cycle. In Brazil, we advocated with chapters and partners against potentially damaging aspects of proposed legislation, contributing to the bill being repealed.

Helping Policymakers Make Better Decisions about the Internet

The Internet Impact Brief has already become a powerful tool for policymakers. In 2021, we published a brief on the Revised Directive on Security of Network and Information (NIS2). It recommended removing from the directive the topic of root servers, which keep the Internet healthy and thriving. We shared our findings with European Parliament policymakers who ultimately voted to remove it. Our brief was part of extensive efforts from many stakeholders to achieve this outcome, showing that arming decision-makers with the right information can empower them to make better choices.

A strong Internet depends on strong building blocks and reliable routing. The MANRS initiative encourages network operators to take concrete actions to reduce the most common routing threats. With Internet usage up, so was the number of routing incidents reported worldwide, making MANRS more important than ever.

In 2021, MANRS took many steps to increase the long-term resiliency of Internet routing. It added more participants, growing in one year from 588 to 750, representing more than 60 countries. MANRS also launched the Equipment Vendor Program, which promotes routing security features on network equipment and provides support and training on how to use them.

To promote the security of the Resource Public Key Infrastructure (RPKI), MANRS developed a free tool to visualize its state around the world. It also published guidelines for operators of RPKI services and promoted enhanced actions for CDN and cloud operators. Network operators are eager for these kinds of resources. More than 500 participants took part in the first-ever RPKI Week. They walked away with even more knowledge and resources to help safeguard the Internet's core.

Finally, MANRS named five Ambassadors, who guided 13 Fellows in delivering more than 60 training sessions, executed regionally by our fellows in their own communities. These workshops reached more than 1,000 network engineers and administrators in 15 countries across six continents.

Spotlight Story

Zobair Khan, MANRS Ambassador

Zobair Khan has had a lifelong interest in improving Internet security. He was active in three Network Operators Groups—at the country, regional, and subregional levels—when he first heard about Mutually Agreed Norms for Routing Security (MANRS) at a conference. A senior manager for Fiber@Home Limited, a Bangladeshi telecommunications network, Khan dug in and adopted the norms for his company.

In 2021, he was selected as one of five MANRS Ambassadors. The ambassadors provide mentorship, training, guidance, and feedback to the global routing security community. Supervising six MANRS Fellows, Khan and the other ambassadors organized 47 different activities for nearly 1,600 network operators in 28 countries and regions.

At time of publication, Bangladesh boasts MANRS readiness index scores of 100 percent on coordination, 98 percent on global validation of Internet Routing Registries (IRR), and 86 percent on global validation of Resource Public Key Infrastructure (RPKI). Bangladesh far outperforms the global average (87 percent, 84 percent, and 26 percent, respectively). The most dramatic change has been with the global validation of RPKI, one of the focus areas of Khan's training. A testament to Khan's success, it's climbed 68 percentage points since 2019 when it was at a low 18 percent.

Khan also became a MANRS instructor in 2021. One student has already adopted MANRS at his company. For Khan, persuasion is the goal—a mission he plans to continue in 2022 and beyond.

Shielding Private Information from Prying Eyes

Encryption helps keep our data secure and private. Because encryption is essential to a trusted Internet, we work to protect it from harmful legislation and urge people to safeguard their information by using encryption. Much of our recent activity has been done through the Global Encryption Coalition, an advocacy group we founded with partners Center for Democracy & Technology and Global Partners Digital.

In 2021, the Global Encryption Coalition more than doubled its membership, increasing from 120 to 256 members. We celebrated the first-ever Global Encryption Day in October 2021. The event, spearheaded by the Global Encryption Coalition, brought people together from around the world to champion strong encryption, telling governments that weakening encryption puts people, communities, and entire nations at risk. Participants played games, pledged to adopt encryption, and joined more than 80 events worldwide. With more than four million people taking part, we've helped create a groundswell of people ready to advocate for encryption in their own communities.

Protecting End-to-End Encryption on Europe

The Global Encryption Coalition weighed in on European Commission consultations on the Commission's draft strategy to protect children online. The draft included two proposals that would actually weaken end-to-end encryption. In response, the Internet Society organized a joint Global Encryption Coalition submission and hosted a webinar for small businesses on the importance of encryption in the European Union. The Portugal Chapter led 12 European chapters in submitting a joint letter to the Commission, drafted a position paper, and did media outreach. They also held meetings with decision-makers, including the Portuguese presidency of the European Parliament. As a result of these advocacy efforts, the Commission has postponed any announcement of its planned strategy. In addition, crucial wins in member states have been bolstered by the new pro-strong-encryption stance of the German Government, creating a more favorable environment around encryption when discussions about the EU's draft strategy resume.

Spotlight Story

Belgian Government Drops Encryption-Weakening Items from Its Data Retention Law after Internet Society Advocacy

In mid-2021, the Belgian government proposed a draft law on data retention in electronic communications that threatened users' privacy and security. The draft law would force companies to decrypt end-to-end encrypted messages whenever requested by law enforcement.

Given the chilling effect this could have on the Internet, the Internet Society and the Belgian Chapter sprang into action, mobilizing a wide-ranging campaign to convince the Belgian Government to remove the anti-encryption text. With the Global Encryption Coalition, we prepared an open letter that garnered 107 signatures and significant media attention. The Belgian Chapter and other local allies conducted media outreach, resulting in at least 40 articles in local media. One staff member even asked a pro-encryption Member of the European Parliament to speak to the Belgian Minister of Justice.

The community's work paid off. In October, the legislation was delayed. Two months later at a Federal Council of Ministers meeting, the government approved a version of the law that removed the backdoor requirement. It now says, "To promote digital security, the use of encryption is free."

The reversal is a huge win for encryption—not just in Europe, but across the world. Ryan Polk, a Senior Policy Advisor at the Internet Society says, "Our advocacy prompted the Belgian Justice Ministry to admit that law enforcement can't access end-to-end encrypted communications without breaking the security of all users."

> **Our advocacy prompted the Belgian Justice Ministr to admit that law enforcement can't access end-to-end encrypted communications without breaking the security of all users.**

Ryan Polk
Senior Policy Advisor, Internet Society

Empowering People to Take Action

The Internet's resilience reflects the people who developed it and the people who do something every day to strengthen it and keep it growing.

These people make up our global community, from individual members to chapters to partners to organization members to special interest groups. Each part of our community plays a vital role in keeping the Internet a force for good through their passion, expertise, and drive.

Partnering to Change the Internet for the Better

In 2021, we identified five IXPs in Latin America and the Caribbean that needed to upgrade their peering infrastructure. Then we did something about it: we provided switches to IXPs in Bolivia, Costa Rica, Dominican Republic, Ecuador, and Paraguay.

But we didn't do it alone.

IXPs aren't developed in isolation. They require collaboration from people across the Internet sphere—people who share a common goal and vision. We partnered with one of our organization members, the Latin American and Caribbean Network Coordination Centre (LACNIC), and the regional Latin American and Caribbean Association of Internet Exchange Point Operators (LAC-IX). They gathered local and regional stakeholders, shared best practices, and provided capacity building and technical support.

Their involvement and support made it possible for the IXPs to grow. With their partnership, we were able to help IXPs across Latin America provide a better, faster, and more affordable Internet.

Partnering for Digital Equity

In 2020, we launched the Truist EPIC Grant with our partner the Truist Foundation, which focuses on strengthening small businesses and building career pathways to economic mobility. Truist achieves this through investments in nonprofits that help people realize opportunities for a better quality of life. The groundbreaking EPIC Grant offered funding for five diverse, low-income communities in the Southeast United States to connect to their own broadband networks.

The five communities, which received grants ranging from $108,000 to $180,000, reached a major milestone in 2021, when they created their own networks. Soon, these communities will have access to a broadband Internet connection: Alabama's Tuskegee Housing Authority, Florida's Duval County Public Schools, the Florida city of Williston, North Carolina's Wave 7 Communications, and the North Carolina city of Wilson. It's a big step to help achieve equity in education, employment, and social welfare in just one corner of the world.

Nurturing and Making New Connections

It's hard enough being the new person. Now imagine joining a big group event on your first day. That's exactly what happened to Rose Croshier, a policy fellow with the Centre for Global Development in Washington, D.C.

Rose stumbled upon the Internet Society while doing research on developing countries' use of space-based telecommunications. Inspired by our work, she decided to become a member. It just so happened to be during our first-ever Community Week, a virtual theme park for our global members featuring fun and interactive activities intended to foster real-life connections.

Unfazed, she jumped right in. "I got a really warm reception," she says.

Croshier made new connections at Community Week that will make a lasting impact, too. "I got pointed in the right direction for references that I'm now using in my work. Some of the contacts I made during that community week are now some of my go-to people. It was just a great resource to trade information, gain a common understanding of key issues and counter-narratives, and to find out who is writing about it," she said.

She plans to remain a member for a long time, saying, "I'll keep returning to [the] Internet Society, both to learn and contribute and stay open to new ideas."

Spotlight Story

Eileen Cejas, Youth Special Interest Group Leader and Board Member

Eileen Cejas, a lawyer from Buenos Aires, has been an individual member of the Internet Society since 2014. You could also call her a superstar for the work she does shaping the Internet's future.

She became active in Internet governance in 2018, after attending local and regional Internet Governance Forum (IGF) events for the first time. Since then, she's completed post-graduate certificates in technology law and gender, organized local Youth IGF events, served as an Internet Society IGF Youth Ambassador, and organized the Global Citizens Dialogue on the Future of Internet.

In 2021, Cejas ramped up her involvement. She organized a Youth Summit event in collaboration with the Youth Internet Governance Forum (IGF) Poland, teaching young people about Wikidata and encouraging them to engage on digital rights. She also became a mentor for the IGF Youth Ambassador Program in 2021. "The experience has been life-changing," she says.

She now sits on the board of the Internet Society's global Youth Observatory as regional engagement director for Latin America and the Caribbean, where her passion is helping create a new generation of Internet leaders.

Spotlight Story

Nojus Saad, Internet Governance Forum Youth Ambassador

Nojus Saad has made it his mission to promote the health and digital inclusion of women and disadvantaged communities.

Growing up in an isolated community in northern Iraq, where the Internet was a luxury and gender-based oppression was the norm, the medical student founded the influential nonprofit Youth for Women Foundation in 2018. After he was selected for our IGF Youth Ambassador Program in 2020, he shifted the nonprofit's focus toward digital health, literacy, and bridging the digital divide.

As part of the program, Saad received a US$10,000 grant to start digital literacy training for more than 80 underserved young people in Iraq. He also attended the 2021 IGF in Poland, where he was a panelist and advocated for digital health inclusion of marginalized groups. His work is being recognized in other ways, too. He won the Diana Award for his domestic violence campaign, became a senior Fellow at ICANN, and became a regional ambassador at the International Telecommunications Union.

Local Action. Global Change.

Chapters are central to our work, bringing together members to run programs and activities dedicated to making a difference locally, informing policy, and educating the public about Internet-related issues. In 2021, our chapters acted locally to help us advance our mission globally.

Work to Connect the Unserved, Underserved, and Marginalized

- The Armenia Chapter connected rural libraries, supported Internet radio, and supported an Internet Availability Center at the Armenian Society for Blind and Visually Impaired People.
- The Bolivia Chapter launched a community network using a satellite antenna in the remote rural community of Suri, Bolivia, connecting its health center and allowing students to study without migrating—a first.
- The Belgium Chapter spearheaded a project to reach thousands of undocumented migrants in Brussels by extending Wi-Fi access to urban parks they frequent.
- In 2020–2021, the Greater Washington, D.C. Chapter and four local organizations launched multiple community Wi-Fi hotspots in underserved neighborhoods in Baltimore, Maryland. The hotspots connected homes, schools, churches, and community centers.

Targeted Interventions to Create Digital Equity

- After completing training on regulatory issues and public policies commissioned by the Brazil Chapter, six community networks applied for ANATEL licenses, which they obtained in 2021. They can now apply for funding and public programs.
- The Guinea Chapter's winning 2021 Chapterthon project, which involved training on the technical aspects of community networks, may influence regulation in favor of these networks. Guinea's Ministry of Information and Communications Technology has asked the chapter to send a brief and documentation so they can change regulation.
- The Rwanda Chapter's Smart teacher project has provided smartphones and training for teachers of G.S Nyirarukobwa.

Digital Literacy and Empowerment Projects

- The new Gabon Chapter built a center for people with disabilities to use the Internet.
- The Haiti Chapter delivered STEAM coding training for 20 girls and boys aged 7-11, and the Yemen Chapter developed a digital training and technical support project for and by women. Both were 2021 Chapterthon winners. "We can exchange knowledge and experiences with one another. We can learn more and more," says a Yemeni participant.
- The Gambia Chapter's Chapterthon 2021 entry was a Hackathon for Kids, where after an intensive week of training, children built products like a motion detector home alarm, a smart trash bin, a traffic light, and a smart walking stick for the blind.
- The Chapter in Benin focused on boosting digital literacy among girls, while the one in Mali is helping small women-led businesses with marketing initiatives and teaching women with disabilities how to earn an income using online messaging services.
- The Somalia Chapter is educating Internet users, particularly young people, about mobile payments, working with others to improve digital literacy, and preparing to roll out a platform that combines online, mobile, and offline learning services to enable continuous access to educational resources.
- The Uganda Chapter organized digital security training for people with disabilities to empower them to ensure their digital rights are respected and to manage online threats.

Advocacy Work for Encryption

- The Israel Chapter raised concerns about a Ministry of Communications proposal to require communications companies to provide detailed information on customers' communication consumption.
- The Estonia Chapter pushed lawmakers to end the mass collection of metadata by carriers and Internet providers.
- The Hong Kong Chapter raised concerns about a Chinese anti-doxxing bill that goes against the principles of open and unrestricted Internet. They flagged a larger privacy bill for many of the same reasons.

Innovative Solutions to Privacy and Security Concerns

- The Botswana Chapter developed digital skills training for lawmakers and politicians so they can be proactive in advocating for Internet policies that promote a secure Internet for all.
- The Brazil Chapter built a platform raising awareness of how encryption can empower LGBTQIA+ people to explore the Internet, connect, and meet others securely.
- The Israel Chapter created Block, a "cyber protection center" website with online protection information, training, and tutorials for individuals and small businesses.
- The Belgium Chapter created isTrust, a free open-source browser extension to check if a website can be trusted or not.

Conclusion

2021 was a banner year for strengthening and growing the tool we all have come to rely upon. As more changes take place around us at a whirlwind pace, the Internet remains a steadfast landscape we can depend on…for most of us. Protecting it, cultivating it, and allowing it to take shape in areas where access is limited or non-existent will remain our goal during the upcoming years.

From community network building in rural regions of the Americas to implementing IXPs throughout local areas in Africa, to securing routing throughout the world, the Internet Society has pushed through policy, empowered people, and kept the Internet free and fair as it grows and faces new challenges.

With the world shifting, we must do more than cling to the Internet as it exists now. We must work to open access and reliability to those still in need around the world. We don't know what will come next, but we do know the Internet will be a bigger and bigger part of it. It remains steadfast, so we, too, can remain steadfast. In our mission. In our optimism. And in our actions.

Our Impact Report highlights how far we have come and lights the way to where we are going. Learn more and engage in the conversations that will help create an open and trusted Internet for everyone. Get involved or donate to help create a bigger and stronger Internet for everyone.