GLOBAL ACTIONS

More than 100 participants, including representatives from over 27 countries, as well as representatives of civil society, the telecommunications and information technology industry, international organizations and multilateral development banks joined U.S. Secretary of State John Kerry and World Bank President Jim Kim in Washington, D.C., on April 14, 2016, to discuss steps to advance the Global Connect Initiative, a U.S.-led multi-stakeholder effort aimed at connecting 1.5 billion new users to the internet by 2020.

Participants announced over 65 new and ongoing initiatives by governments, international organizations and multilateral lending institutions, industry and civil society supporting connectivity. They highlighted their planned and recent investments in connectivity valued at more than $20 billion, in many cases leveraging public investment to support larger private sector investment that underpins much connectivity infrastructure.

These initiatives also highlight the many other ways stakeholders support expanding affordable broadband access. Countries are using universal service funds to expand access to their remote communities and underserved populations, bringing affordable access to millions of people. Programs to extend 3G, 4G, and emerging 5G wireless access; to deploy Wi-Fi hotspots in community centers, libraries, schools, and clinics; and to leverage emerging technologies for reaching remote communities, will greatly expand broadband communications access. Governments, international organizations, multilateral development banks, industry, and civil society are working to develop and implement national strategies and broadband plans to promote more affordable broadband access and investment in the technologies and infrastructure to make that possible, often working together to achieve those goals. Finally, many of these initiatives highlight ongoing collaboration to build the technical skills and human capital to expand broadband access and the economic and social benefits that increased access can unleash.

These contributions can be categorized into five major lines of effort reflected in the Global Connect Connectivity Principles: Prioritizing Connectivity in Development, Accelerating Work toward Universal Access, Connecting Remote and Underserved Areas and Populations, Promoting Public Access, and Adopting Policies to Support Connectivity. Although contributions are listed only once, many contributions support more than one line of effort. This is not an exhaustive list of initiatives. As Global Connect is a long-term initiative, this too is an evolving list with new contributions to be added in future iterations.

GLOBAL CONNECT INITIATIVE
1.5 BILLION MORE ONLINE BY 2020

- **Canada's** International Development Research Centre (IDRC) is committing nearly CDN $15 million ($11.6 million) to connect the next billion to economic opportunities, ensuring the internet is accessible, affordable, and usable by those at the bottom of the economic pyramid.

- **Canada**, through Global Affairs Canada, is supporting multilateral financial institutions – including the World Bank, the Asian Development Bank and the African Development Bank - to address infrastructure gaps in developing countries, including access to ICT infrastructure, as well as to develop the private sector and increase the supply of skilled workers and access to technology, among other pressing areas.

- In **Costa Rica,** vigorous competition among three major mobile carriers and specialist providers has increased internet penetration over mobile lines from 57.4% of the population in 2012 to 89.9% in 2014. This progress has not been matched by fixed-line internet penetration so Costa Rica's telecom authorities through the "National Telecommunications Development Plan" aim to provide broadband internet at median OECD speeds to 80 percent of the population by 2021.

- **Costa Rica** is rationalizing its spectrum allocation to ensure that licensees utilize allotted spectrum. A spectrum auction is underway to sell 70 megahertz by the end of 2016. Costa Rica's transition to digital TV, which must be complete by December 15, 2017, will also free up a significant amount of spectrum for wireless and for the eventual introduction of 5G wireless communications.

- **Finland** is committed to continuing its support for digital development through its development policy and cooperation. The first guidelines for ICT and information society in development were published in 2005 and the past 10 years have seen at least €100 million invested in related projects. Finland works closely with its partner countries from Africa and Asia, invests in multilateral cooperation, and has recently partnered with Tekes, the Finnish innovation funding agency, in a €50 million program for accelerating innovation for development.

- **Finland**, through the ongoing African Leadership for ICT program, implemented by GESCI from Nairobi in cooperation with the African Union Commission, has supported the training of close to 500 African future public sector leaders from Anglo- and Francophone Africa in policymaking for the digital age, including internet policies, ICT applications in society, cybersecurity, innovation policy and training in leadership.

- **Japan**, through the Ministry of Internal Affairs and Communications (MIC), has sought to contribute to developing broadband networks in ASEAN countries through the "ASEAN Smart Network Initiative." Through various projects in ASEAN countries, Japan has contributed to enhancing connectivity and addressing social issues by developing broadband infrastructure and human resources, and spreading advanced applications to promote active broadband use.

- **Japan** has played a significant role in improving internet connectivity, through programs like the "Communication Network Improvement Project" and the "Project for Urgent Improvement of Communication Networks" which both aimed to develop Myanmar's core communication networks. Japan has also worked to lay optical cables in Cambodia through the Greater Mekong Telecommunication Backbone Network Project.

- **Japan** launched a public-private Fund Corporation for the Overseas Development of Japan's ICT and Postal Services (Japan ICT Fund) in November 2015. The Japan ICT Fund provides support for the overseas deployment of quality infrastructure, including broadband networks, both through financing and hands-on support from technical experts. The Japan ICT Fund was started with initial capital of 3.744 billion yen ($34.3 million) from the Government of Japan and the private sector. The Government of Japan expects their Fiscal Investment and Loan Program to provide up to 56.1 billion yen ($513.2 million) to the Japan ICT Fund in FY2016, including an "Industrial Investment" of up to 20.0 billion yen ($183 million).

- **Kosovo** is committed to increasing the level of internet availability in Kosovo to at least 85 percent by the year 2020. Data from Kosovo's Regulatory Authority of Electronic and Postal Communications puts this number at the end of September 2015 at 50.3 percent.

- **Mauritius** is investing in Internet connectivity. It is planning the installation of a new submarine cable through a third international gateway. It is increasing the number of free Wi-Fi hotspots from 15 to 350. Its goal is to provide the whole island with full broadband fiber optic connectivity by 2018

- **Nigeria's** National Communications Commission is set to auction new spectrum (2.6GHz band) in 2016 to facilitate rapid deployment of wireless broadband services across the country. Following the sale of the previously government owned Telco (NITEL), the successor company NTEL is set to rollout 4G LTE. Six hundred base stations have been deployed across the nation, and 200km fiber optics cables were laid in Lagos, Abuja and Port Harcourt.

- **New Zealand**, through the New Zealand Aid Program, is investing in satellite and submarine cable solutions in the South Pacific region to increase capacity and access to the internet for Pacific Island nations. The goal is to provide the connectivity required to build better services for education, health and government, and reduce the cost of doing business for the private sector to increase economic development.

- **Sweden** considers ICTs and the internet to be crucial enablers of Agenda 2030. Sweden has been working with ICT and development issues since the late 90s in various forms: building infrastructure, setting up training programs and helping countries improve their regulations and institutions. During 2015, Sweden provided $74 million in support to ICT related projects in developing countries.

- The **Arctic Council** has established a Task Force on Telecommunications Infrastructure in the Arctic (TFTIA), which seeks by April 2017 to conclude an assessment of telecommunications and network infrastructure in the Arctic and make recommendations on public-private partnerships that will enhance telecommunications in the Arctic. In a parallel effort, the Arctic Economic Council has created an industry-led working group on telecommunications which aspires to help expand broadband access throughout the Arctic.

- The **Asian Development Bank** and the **International Finance Corporation**—a member of the World Bank Group—are providing loans of $300 million to Ooredoo Myanmar for the rollout of a mobile telecommunication network across Myanmar, which will help extend affordable telecom services across the country, boosting economic growth and job creation.

- **CITEL**, the telecom arm of the **Organization of American States** (OAS), is strongly committed to increased connectivity in the Americas. Last year, CITEL led the way for the Americas region to become the first in the world to formally endorse Global Connect to catalyze multi-stakeholder initiatives to bring 1.5 billion new internet users online by 2020. This year, CITEL is redoubling efforts to make connectivity a priority not only for its own activities but for the OAS more widely. Achievement of Global Connect goals will advance the promotion of democracy, human rights, and foster greater prosperity in the hemisphere – all goals that the OAS sees as foundational for reducing the digital divide within societies in the Americas.

- The **European Bank for Reconstruction and Development** (EBRD) has to date invested €3.8 billion ($4.3 billion) in 172 ICT projects. In the digital connectivity space it has focused on information systems and infrastructure, technological upgrades for industry and financing innovation. The EBRD coordinates with other lenders through its Knowledge Economy Initiative. The EBRD supports the GCI and welcomes this new multi-stakeholder initiative to help bring 1.5 billion people online by 2020.

- The **European Investment Bank** (EIB) fully supports the principles of the Global Connectivity Initiative and warmly welcomes this global multi-stakeholder initiative to help bring additional 1.5 billion people online by 2020. EIB's strategic objectives include a continued increase of investments to improve broadband connectivity in support of the sector itself as well as to improve growth and productivity of the wider economy. EIB supports the ICT and broadband sectors through financing (senior and subordinated debt, as well as equity through funds) and, additionally, by crowding-in private and public sector investors; by policy support; by project advisory and by development of organizational capacity. EIB currently has a global ICT investment portfolio of €15 billion ($16.9 billion). EIB's new commitment in 2015 to ICT projects was €1.6 billion ($1.8 billion), which was part of its €18.7 billion ($21 billion) financing for the Innovation/Knowledge Economy. Over the past 5 years, EIB's financed capital investment in broadband projects was €8.9 billion ($10 billion). EIB higher risk lending activities on average support five times the amount in private sector investment.

- Digital connectivity is one of the **Inter-American Development Bank's** (IDB) focus areas. Between 2013 and 2015, the IDB's Broadband Special Program financed 32 Technical Cooperation projects with a total allocated amount of $10.4 million, which prioritized dialogue with policymakers, institutional strengthening, updating regulatory frameworks and the creation of applications for development. Examples of projects are: (i) two ministerial meetings to identify and discuss the new challenges of digitization and the potential areas for Bank support, attended by telecommunications ministers, presidents of regulators and members of civil society from more than 25 countries; (ii) support to seven countries from Central America through the Broadband Training Center located in Nicaragua; (iii) approval of a $50 million loan to Nicaragua to increase broadband penetration in the country. In addition to these projects, the Bank has developed a broadband index (www.iadb.org/digilac) that has been a reference for policy makers to identify gaps and challenges ahead, as well as a toolkit with the OECD to promote the use and expansion of broadband. The Bank is also working on a knowledge agenda to open new spaces of dialogue in key topics such as cybersecurity. The IDB supports GCI and its principles and welcomes this new multi-stakeholder initiative.

- The **World Bank Group** has a long history of supporting ICT sector development. Over the last 10 years, the World Bank invested around $3.1 billion in ICT sector reforms and broadband infrastructure, while total IFC investments amounted to $4.1 billion. The World Bank has provided support for policy and regulatory reforms, catalytic funding for telecommunications infrastructure under PPP financing schemes, and through IFC, financing to the private sector for telecoms operators, data centres, ISPs, IT businesses and mobile money entrepreneurs.

- **Google** has announced Project Link in Uganda and Ghana, which builds metro fiber networks to enable Internet Service Providers (ISPs) and Mobile Network Operators (MNOs) to provide high-quality broadband at lower costs through shared infrastructure. Working alongside multiple partners greatly expands the capacity to support local providers in building a stronger web in Africa and around the world. In Uganda, Google also offers wholesale last-mile Wi-Fi access, enabling its ISP and MNO partners to bring high-quality Wi-Fi to homeowners, small businesses and mobile users on-the-go.

- **IEEE** is the world's largest association of technologists and scientists, representing nearly half million members worldwide—across over 160 countries. IEEE is committed to working with the Global Connect Initiative and its supporters to reach its goal of connecting 1.5 billion people with meaningful access to the internet by 2020. Specifically, IEEE was thrilled to co-host the Global Connect Stakeholders: Advancing Solutions meeting with the World Bank Group and IEEE remains committed to supporting continued discussion to support Global Connect. IEEE plans to continue hosting follow-on work to support Global Connect, including another meeting this October at the next International Monetary Fund and the World Bank Group meeting. IEEE looks forward to strongly collaborating with industry and the technical community, government bodies, NGOs, academia and all interested parties in solving the internet connectivity challenge over the next five years.

- **Telenor** was one of the first mobile operators to enter emerging markets and focus on rural and economically disenfranchised communities and not only the high income populations in cities. Telenor has set an ambitious target of having 200 million active internet users by 2017, and 100 million customers using mobile financial services in 2020. Connecting the unconnected and banking the unbanked walk hand in hand.

- In the wake of the Ebola crisis, the **United States** is strengthening communications systems and digital infrastructure to improve the government of Liberia's ability to prevent, detect and respond to future public health crises--as well as catalyze economic recovery and stabilization. The U.S. government, through USAID, is investing in Liberia's digital infrastructure to expand connectivity, which will be complemented by additional investments in e-payments expansion and e-government and telecommunications policy support.

- Over the past five years, the **United States**, through the Export Import Bank of the United States (EXIM), has funded $4.9 billion total financing, including $1.2 billion of financing for four projects in Azerbaijan, Mexico, and Vietnam, which ranged in size from $79 million to $922 million. EXIM has a pipeline of $522 million in pending applications for satellites, launch services, submarine fiber optic cable, and other telecommunications projects.

- The **United States**, through the Overseas Private Investment Corporation (OPIC), the U.S. Government's development finance institution, has $630 million currently invested in 37 ICT projects in 25 developing countries across all regions. OPIC's diverse portfolio of projects range from e-commerce to telecommunications infrastructure (towers and submarine cable), from mobile voice and data networks to wireline broadband and triple play networks. Looking forward, OPIC has $825 million in potential ICT projects in its pipeline. In March 2016, OPIC approved up to $171 million in financing to Tikona Digital Networks to support the expansion of Tikona's low-cost and rapidly scalable wireless broadband networks across India. OPIC also recently approved up to $250 million in financing and $150 million in insurance to Apollo Towers to develop a network of 2,500 telecommunications towers across Burma, one of the last countries in the world without widespread ICT infrastructure. In 2011, only 3 percent of Burma's 50 million residents had access to mobile phones.

- The **United States**, through the U.S. Trade Development Agency (USTDA) funds technical assistance, reverse trade missions, and feasibility studies in a range of locations related to expanding fiber and broadband networks, helping governments manage data and data centers, conducting e-government feasibility studies, and cybersecurity projects. Programming over the past five years totaled $13 million ($4.8 million in Latin America, $4.8 million in the Middle East, $1.8 million in Asia, and $1.5 million in Africa). USTDA expects to continue funding between $2-3 million in projects per year that support connectivity.

- The **United States**, through the Millennium Challenge Corporation has spent about $1.5 million in fiber optic cable installation and broadband expansion in Mongolia, Namibia, and Zanzibar. It is hiring a connectivity expert to change the way it does business; MCC is redesigning its compact development process to better integrate connectivity objectives. This new commitment to connectivity will be reflected in upcoming compacts with Senegal, Cote d'Ivoire, and Kosovo.

- The **United States**, through the National Science Foundation, spends $7-9 million per year in funding for connectivity related work, including the Network Startup Research Center (NSRC) based in the University of Oregon. NSRC helps countries build networks and train engineers, and provides technical assistance to universities, government agencies and other organizations to expand and improve internet access across the world. Funded by an initial investment from the NSF, NSRC has worked in more than100 countries and helped build some of the internet infrastructure in Africa, Asia-Pacific, the Middle East, Latin America, the Caribbean, and North America. NSRC receives private funding as well; most recently a $3.2 million award from Google.org to help build cyber infrastructure in Africa.

Accelerating Work toward Universal Access

- **Finland** has made reasonably priced 2 Mbit/s broadband connection a basic right for all citizens - a universal service. Finland has further set a goal to make a fast 100 Mbit/s broadband connection available to 99 percent of all permanent residences and enterprises by 2019. Finland is already a world leader in mobile broadband subscriptions.

- **Mauritius** intends to use its Universal Service Fund to overcome market failures to expand broadband Internet access, by providing broadband internet to some 40,000 households from vulnerable groups, free for the first year and at a minimal cost thereafter and more than double the satellite bandwidth to residents of Rodriques Island.

- The **United States**, through USAID's Global Broadband and Innovations effort, a $10 million dollar program managed by the U.S. Global Development Lab, has played a significant role in drafting and finalizing several national broadband plans (NBP), including Nigeria, Kenya, and Indonesia, and, frequently in conjunction with NBP development, has provided critical technical assistance to the effective governance and management of Universal Service Funds.

- The **United States'** Federal Communications Commission (FCC) in 2016 modernized and reformed its Lifeline program to help low income consumers afford access to the internet. Today, consumers need internet access for full and meaningful participation in society. Yet 43 percent of the United States' poorest households say they can't afford modern broadband service. To help close this digital divide, the FCC Order adopted by the Commission refocuses Lifeline support on broadband, which will enable low-income Americans to share in the opportunities that access to the internet provides. At the same time, new rules build on recent reforms in the program to combat waste, fraud, and abuse and increase program efficiency. For the first time, Lifeline will support stand-alone broadband service as well as bundled voice and data service packages. To spark competitive service options for Lifeline consumers, the rules will unlock the Lifeline broadband marketplace to attract additional providers. And new service standards will ensure that supported services meet modern needs.

Connecting Remote and Underserved Areas and Populations

- **Canada**, through Global Affairs Canada, is supporting Digital Opportunity Trust (CDN $10 million ($7.7 million) over five years) to use ICTs to deliver effective entrepreneurship programs for youth in Ethiopia. The project aims at building the entrepreneurial and business skills of 75,000 young people between the ages of 18 and 29, enabling them to find employment or create micro- and small- enterprises. It also builds the capacity of 6,920 youth who already own small enterprises to successfully expand their businesses.

- **Chile** has just announced that the country has reached 72 percent internet user penetration, the highest rate in Latin America. In November 2015, President Bachelet officially launched the nation's "Digital Agenda 2020" to increase broadband penetration to 90 percent over the next five years and to reduce the digital divide. A $100 million subsidy for an optical fiber project encompassing a third of the country, and further expansion of free Wi-Fi access hotspots in community centers and schools are part of the key measures included in the agenda to reach rural, isolated, and remote areas.

- Close to 50 countries are using knowledge and e-solutions that have been launched by Estonia's development co-operation projects. **Estonia** is open to new opportunities to advance either bilateral or trilateral ICT cooperation projects in developing countries where Estonian expertise and knowledge-sharing can have added value. Implementing partners provide their expertise in the course of study visits, the assessment of e-government development and risks, training seminars, policy advice, consultancy on building e-government solutions and the sharing of international and EU level best practices on e-governance and open government.

- To bridge the digital divide in remote areas without ICT connectivity or electricity, **Japan**, through the National Institute of Information and Communications Technology, developed wireless communications technology "NerveNet" enabling high-speed data communication with solar power. This technology enables voice calls, messaging and a variety of applications in remote areas, and, powered by a storage battery, can work for up to 32 hours without sunlight.

- **Kenya's** National Wireless Broadband Spectrum Policy manages spectrum for deployment of wireless broadband network upgrades that will increase broadband connectivity countrywide, especially in rural and underserved areas.

- **Kenya** has established a Universal Services Advisory Council to work with the ICT sector regulator to utilize the Universal Services Fund to support access to unserved and underserved communities.

- **Nigeria** is supporting an infrastructure (Base Transmission Station) to extend GSM operator provided voice services to underserved communities in the states of Adamawa, Akwa Ibom, Bayelsa, Borno, and Ondo. This project aims to achieve full coverage by 2017.

- **Nigeria's** Rural Broadband Initiative is piloting mobile hotspots, which are being constructed across the country in the states of Benue, Gombe, and Borno.

- **Pakistan** is committed to connecting all of the country's "unserved" populations to the internet by 2020, and will finance thee connectivity projects through its Universal Services Fund (USF). The USF has four project areas: rural telephony, optic fiber cable, broadband, and special projects. The Ministry of Information Technology (MOIT) will pursue demand-site connectivity projects as well, including the construction of 200 telecenters in rural areas, which will increase internet literacy. The Government of Pakistan is also working with a U.S. company to teach girls to code.

- In 2014, **Ericsson** positively impacted 4 million people through the company's Technology for Good™ initiatives and set a target to impact an additional 5.5 million by the end of 2016. Ericsson also extended its methodology for assessing positive impact to include customer technology deployments that have direct positive impact on society and the triple bottom line – for example, rural mobile broadband deployments in low, and medium Human Development Index countries and mobile, commerce deployments in sub-Saharan Africa and Latin America where there is linkage

between the technologies and fulfillment of the Sustainable Development Goals. By the end of 2015, Ericsson had positively impacted an additional 16 million people, achieving the company's target ahead of schedule. Based on this Ericsson estimates 20 million people are directly impacted by Technology for Good™ initiatives so far. Ericsson is aiming to impact a minimum of eight million additional people by the end of 2016, bringing the total to 28 million people.

- **American Tower Corporation** is a global leader in the communications tower industry, and by year end is expected to have nearly 150,000 towers located in fourteen countries on five continents. Towers are the essential real estate necessary to the mobile ecosystem. American Tower has taken an initial step toward meeting the goal of connecting the three billion unconnected by launching partnerships with governments and other stakeholders to create "Digital Town Squares" using its tower sites as primary points of connectivity. By building education kiosks with internet access, an uninterrupted power supply and broadband link facilitated by these towers, American Tower is helping to provide critical access to the internet in underserved areas. These projects have just begun in India and a pilot is planned in Nigeria.

- **Google** has announced that Indonesia's leading mobile network operators—Indosat, Telkomsel, and XL Axiata—will begin testing Project Loon balloon-powered internet over Indonesia in 2016. By helping Google's telecommunications partners extend their networks across an archipelago of 17,000 islands, these tests represent an important step toward bringing all of Indonesia online, even the most remote islands. Loon balloons act like floating mobile phone towers. Flying on the stratospheric winds at altitudes twice as high as commercial planes, each balloon beams an internet connection down to the ground, and as one drifts out of range, another moves in to take its place. Loon and its partners aim to help put high-speed LTE internet connections within reach of more than 100 million Indonesians, giving them access to the limitless educational, cultural, and economic opportunities of the internet. Project Loon is also conducting trials in Sri Lanka, and intends to test in more countries throughout 2016.

- When **Telenor** launched service in Yangon, Myanmar, the company signed up 514,000 new customers – in one day. After 15 months of operations, Telenor now has 15 million customers. In a country that has been cut off from the outside world for more than 60 years, the opening of the market to competition and foreign investments has raised mobile penetration from below 10 percent in 2013 to 60 percent in 2015. Over 50 percent of Telenor subscribers use their new mobile phones to access the internet – that is similar to Thailand and Malaysia and many central European nations.

- The **World Economic Forum** in partnership with the core Northern Corridor governments (Kenya, Rwanda, Uganda, and South Sudan) will launch in May 2016 a multistakeholder initiative to develop new models of public private collaboration to accelerate "internet for all" to the approximately 70 million people in these countries currently not using the internet

- The **United States**, through USAID's Global Broadband and Innovations program has invested $450,000 in collaboration with key private sector partners to support the deployment of emerging technology infrastructure such as TV White Space. These deployments will connect 22 health facilities and 60 education networks reaching 100,000 in Kenya, Botswana, and Jamaica. A deployment in Indonesia will lead the Government of Indonesia to support rollout to 800 rural villages with potential for broader countrywide expansion.

- The **United States**, through USAID's Office of the Senior Coordinator for Gender Equality and Women's Empowerment, supported by the USAID Global Development Lab, has committed $1.5 million to a partnership with NetHope, Intel Corporation, World Pulse, World Vision, UN Women, and Internews to create a 'movement' that addresses the internet gender gap by bringing more than 600,000 young women online in Kenya in the next 3 years. Alliance partners will combine efforts to transform the lives and livelihoods of girls and women through digital literacy training, relevant content, policy work, and online social networks. The Alliance will introduce girls and women to the transformative benefits of the internet. All partners share a common interest in increasing access to and use of the internet to realize the socio-economic benefits for all of bringing more girls and women online. This effort will expand opportunities for young women to generate greater income, receive a quality education, increase their sense of empowerment and equity, extend their support networks, and increase their political participation.

Promoting Public Access

- **Costa Rica** will use funds from the $270-million Telecommunications Universal Service Fund to subsidize wireless connections for the poor and provide one laptop per home to 140,000 homes under the poverty line, 5,000 schools, 1,100 hospitals/health centers, and most or all public libraries. Costa Rica has already committed $60 million to this effort.

- One of the **Estonia's** main implementing partners in different development-oriented e-governance projects is the Estonian e-Governance Academy (eGA) that has provided more than 120 trainings and numerous consultancy projects for developing countries on e-governance. The Estonian Government has other long-term implementing partners dealing with ICT projects as well.

- **Mauritius** is increasing free Wi-Fi hotspots from 15 to 350 across the island.

- **Nigeria** is deploying Information Resource Centers to facilitate building digital libraries. Its Community Resource Centers aim to extend ICT and e-services to underserved communities. Remote Information Technology Centers, currently being implemented by the National Information Technology and Development Agency, provide access to IT resources (computers, internet, and etc.) to remote locations. The facility comes installed with alternative power sources like generators and solar power/inverters.

- **Pakistan's** "Smart Universitie" public-private partnership will provide Wi-Fi broadband access to 100 Pakistani university campuses nationwide.

- **Panama**, through its Red-Nacional-Para-Todos (internet for all) project, aims to provide free wireless internet access to all Panamanians through the installation and maintenance of a nationwide network that encompasses 1,105 public internet hotspots in 41 cities throughout the country. Phase 2 of this project is expected to provide access to more than 2.3 million of Panama's 3.9 million people. It is the hope of Panama that all Panamanians can eventually connect to each other, as well as access information throughout Panama and connect to the world.

- **Senegal**, in partnership with its ICT industry and civil society stakeholders, is targeting for 3G to be available to everyone in Senegal by 2020, for 40 percent of the population to have access to 4G, and for 50 percent of companies to have high speed broadband. Senegal holds a local internet governance forum each year.

- In India, **Google** announced RailWire Wi-Fi, a partnership with Indian Railways and RailTel, to provide high-speed broadband access to millions of Indians every day. This partnership is building a high-speed Wi-Fi access network at 400 Indian Railways stations via its extensive fiber network along many of these railway lines. Mumbai Central Stations BCT was the first station to launch in January and 99 more stations will come online in 2016. Even with just the first 100 stations online, this project will make Wi-Fi available for the more than 10 million people who pass through every day. This will rank it as the largest public Wi-Fi project in India, and among the largest in the world, by number of potential users. And as the scope of what can be done on the web broadens—whether it's business, education, socializing, communicating, or even entertaining—fast, reliable Wi-Fi in these train stations will play an essential role in the lives of millions.

- **Intel Corporation** is supportive of the Global Connect Initiative with the goal of connecting 1.5 billion new internet users by 2020. Through more than 200 programs in 70 countries, the Intel World Ahead Program collaborates with governments, global and local technology companies, and a wide range of organizations to plan and implement programs that improve citizens' lives and provide economic opportunities. Working with governments, industry leaders, organizations (local, national and multinational), and education and healthcare experts, Intel helps make appropriate technology available for purchase and develops education and training programs. These programs help countries and citizens achieve the full value and economic effect of their technology investments.

- **Mozilla** is a nonprofit organization with a mission to ensure the internet is a global public resource, open and accessible to all. By the end of 2016, Mozilla plans to launch a public challenge to spur innovation for new ways of providing affordable access and digital literacy that will help bring the internet, to all people, all of the time. The goal is to inject practical, action-oriented new thinking into the current debate on how to connect the unconnected.

- **Mozilla** is building a global hub to help more women learn how to read, write, and participate online. Over the past five years, Mozilla volunteers have started over 100 clubs and run over 5,000 local events in 90 countries to teach people digital literacy. Building on this new model, Mozilla is working with UN Women to set up clubs just for women and girls in Kenya and South Africa. This is a first step towards creating the global hub.

- In India women are 36 percent less likely than men to own a mobile phone. **Telenor India** is tackling this disparity with Project Sampark. The project aims to bridge the mobile usage gender gap in rural India and address the cultural barriers to women's access to mobile – as well as creating work opportunities for women. The solution is simple: a pack of two paired SIMs, one of which is to be used by a woman and the other by a male household member. When the woman's SIM is topped up with credit, the man's SIM card also gets a credit. Noting that women retailers serve women customers more effectively, Telenor has recruited a network of local women retailers to market and sell the SIM plan. In the 87 pilot villages in the Aligarh district of Uttar Pradesh the SIM plan accounts for over 30 percent of new Telenor subscribers, and is regarded as a commercial and social success. The project will be expanded to other areas.

- Harvard T.H. Chan School of Public Health and **Telenor Group** together with **Telenor Pakistan** have carried out a project on assessing how human travel and mobility contributes to the spreading of dengue fever in Pakistan. This project is not only the largest of its kind ever conducted, in terms of the number of subscribers analyzed, but also represents the first attempt to conduct an analysis of dengue outbreaks using CDR (call data records) analytics. The approach produces accurate predictions about both the location and timing of disease outbreaks, not only in recently emerging regions, but also in previously dengue-free regions of Pakistan. Predictions provide sufficient lag-time to allow local public health officials to prepare for epidemics.

Adopting Policies to Support Connectivity

- **Afghanistan** has developed an open access concept to expand the telecommunication infrastructure in order to lower costs, improve reliability, and increase the access to telecommunications service. This will support the business, education, health, security, and other sectors in Afghanistan by providing more access to cheaper and more reliable broadband internet. Its goal is bring 10 million citizens online by 2020.

- **Argentina** is undertaking efforts to restructure its telecommunications and media concentration oversight functions to promote competition, transparency, innovation and economic growth.

- **Finland** is committed to an active and forward looking spectrum policy for introducing 5G, including smart allocation of frequencies for R&D and piloting purposes. The long-held stance of Finnish communications policy has been to allocate as many frequencies as possible for wireless broadband. The first test license for 5G was granted in 2015 and more will be issued in the near future. Finland is further investing public R&D funding for 5G-related research and innovation.

- To accelerate digital innovation and create a favorable ecosystem for the digital economy to flourish, **Finland** is establishing a national Internet of Things-program, building a growth environment for digital transport services, creating a national information security strategy, increasing use of big data to stimulate new businesses, investing in robotics and automation and relaxing the regulatory and administrative burden around digital business. These initiatives rely on close cooperation between the public and private sectors.

- **Japan** contributes to human resource development by dispatching experts and providing training programs for other countries to be able to sustainably operate, maintain and improve their ICT network. Japan also provides invitation programs with a wide variety of training such as lectures on ICT management for high-level managers and practical workshops for engineers.

- **Kenya** is reviewing its National ICT Sector Policy Guidelines to ensure a transparent and competitive market for ICT services. The review will also take into account the issue of infrastructure deployment and sharing.

- **Kosovo** is partnering with the World Bank to build a cohesive and coordinated approach to digitalize Kosovo's economy through the Kosovo Digital Economy project (KODE). The project aims to strengthen the national ICT infrastructure, increase ICT skills of Kosovo's workforce, and assist start-up businesses.

- **Kosovo** has developed and is implementing several national plans/strategic documents in the field of ICT, including: the Electronic Communication Sector Policy – Digital Agenda for Kosovo 2013 – 2020; South East Europe 2020 – Jobs and Prosperity in a European Perspective; the Digital Agenda for Europe 2020; and the Digital Single Market Strategy for Europe.

- **Mauritius'** National Broadband Policy (2012 – 2020) – *i-Mauritius* – establishes national goals for broadband connectivity and a framework to sustain the development of the ICT sector. Its "Open Access Policy' (OAP) promotes competition in the telecommunications sector and allows new operators to enter the local market on an equal footing with existing operators. Mauritius is considering adopting OAP for the operation of undersea cable landing stations in Mauritius to ensure healthy competition, encourage local SMEs to enter the telecommunication market and offer international internet connectivity at competitive prices.

- As part of implementing **Nigeria's** National Broadband Plan 2013-2018, the Nigerian Communication Commission will issue licenses to Infrastructure Companies (Infracos). The Infracos will be responsible for deploying fiber optic cables across various geo-political zones of the country and providing access to all service providers in a non-discriminatory manner.

- The **World Bank Group's** 2016 World Development Report (WDR) presents a balanced and nuanced analysis of the 'Digital Dividends' that developing countries can expect to reap through digital development. In the future, the World Bank will work to close the digital divide and enable client countries to reap the benefits of digitalization, fostering competition, fair taxation, and public private partnerships to create an enabling environment for the private sector, next to risk sharing, investment sharing and other innovative business models. To offer a platform for digital innovation and development financing, the World Bank's Digital Development Partnership (DDP) will bring public and private sector partners together to catalyze support to developing countries in the articulation and implementation of digital development strategies and plans.

- **Internet2** will serve as the convener of the Global National Research and Education Network (NREN) CEO Forum to assess what NRENs are doing across the globe that supports the Global Connect Initiative and what role these NRENs can play in the future. Internet2 will provide information about this commitment for the Global Connect action plan. Internet2 also will provide a briefing document that will offer recommendations for how other countries can support community anchor institutions.

- The **World Economic Forum** will launch a report "Internet for All" in May 2016 which proposes an ecosystem approach to address the barriers related to infrastructure, affordability, skills and awareness, and relevant content to catalyze increased public private collaboration to accelerate internet for all.

- The **United States**, through USAID, has committed over $1.7 million since 2013 as a Global Sponsor of the Alliance for Affordable Internet (A4AI.org), a coalition of over 80 tech companies, donors, civil society organizations and academic institutions that have committed to policy and regulatory approaches to drive down the cost of broadband to the UN Broadband Commission's goal of five percent of household income.

- The **United States'** Technology Leadership Program (TLP), an interagency collaboration between USAID and the State Department, provides countries access to USG legal and regulatory technical expertise through U.S. based and short-term in-country technical assistance, with a priority focus on access-related topics including universal service, spectrum sharing policies and strategies, and national broadband strategies. USAID has provided $550,000 since 2012 in support of the TLP.

- The **United States'** African Broadband Partnership reflects a vision that a strong enabling environment for internet access is critical to 21st-century development by addressing various aspects of a strong, inclusive ICT policy and regulatory environment. With $2.6 million committed by USAID since 2014, the African Broadband Partnership will help create broad-based policy and regulatory environments that will enable universal access to affordable broadband. The ABP is now supporting six African countries with technical assistance as well as one West Africa regional program.