# Verizon Forward for Good Challenge in partnership with Clinton Global Initiative University

## CHALLENGE PROMPT

Verizon believes that leading-edge technologies like [5G](#), [edge computing](#), real-time IoT ([5G and IoT](#), [Edge and IoT](#)), [Artificial Intelligence](#), and [Extended Reality](#) can play an important role in driving meaningful and equitable social change; and in order to make critical strides forward, we must support, cultivate, and diversify the voices of student innovators around these next-generation capabilities.

We are looking for solutions that answer this question:

**How can you leverage leading-edge technology to advance equity in one of the five Clinton Global Initiative University (CGI U) key focus areas?**

- Education
- Environment and Climate Change
- Peace and Human Rights
- Poverty Alleviation
- Public Health

As you consider possible project ideas, please review the focus area descriptions, resources, and example technology solutions within each topic area, the Challenge rubric, and the considerations below.

**Innovative technology solutions targeting the U.S context are of interest. Solutions focused on international markets without clear application to the U.S. will not be considered for this Challenge.**

**Programmatic applications of existing technology will not be considered. While many philanthropic, educational, and sustainable development programs use technology to some extent, solutions of interest to this challenge use technology _itself_ to solve a societal problem.**

# FOCUS AREAS

**EDUCATION**

A new generation of innovators is leading initiatives to expand access to education, improve existing education systems and better integrate technology into classrooms. These movements define and improve the central roles that schools, universities, and technology can play in providing academic knowledge, values, and skills for economic and professional development. Verizon believes that leading-edge technology will be a key element of the future of equitable education and are looking for ways **leading-edge technology can provide equitable access to engaging, immersive educational experiences for learners from kindergarten through adulthood.**

- **Resources**
  - [Why 5G can be the difference-maker in education](#)
  - [XR Accessibility in Education](#)
- **Examples**
  - [SignAloud Gloves:](#) Winner of the Lemelson-MIT competition, these gloves translate sign into text or speech in order to bridge the communication gap between American Sign Language speakers and people with hearing.
  - [KaiOS Tech:](#) Software that gives smartphone capabilities to inexpensive mobile phones to create more learning opportunities for under-resourced communities.
  - [BrightBytes:](#) A leading cloud-based platform for education data that aims to improve learning outcomes for all students by measuring the impact of technology on learning.

**ENVIRONMENT AND CLIMATE CHANGE**

Climate change is having dire impacts on ecosystems and human societies. These impacts affect everyone, but marginalized communities and those with limited resources are the first to feel it. Throughout the world, a groundswell of next generation leaders is finding solutions to slow and stop climate change as well as to adapt to it, accelerating progress towards a more sustainable, resilient and just future. Solutions include, but are not limited to green jobs, energy efficiency, renewable energy, carbon sequestration and removal, climate risk reduction, climate and hydrological forecasting, and disaster preparedness.

- **Resources**
    - [How Technology is Leading us to New Climate Change Solutions](#)
    - [Difference Between Mitigation and Adaptation Approaches](#)
    - [Examples of How Tech Can Support Climate Justice](#)
    - [How Technology Can Battle Natural Disasters](#)
- **Examples**
    - [The Climate VR:](#) A Virtual Reality-based tool to explore climate change impacts on coastal flooding in Morro Bay, California. Tool creates photo-realistic three dimensional and interactive environments in which users will be able to experience different flood scenarios based on current and future climate conditions.
    - [Fireball](#): Fireball's system, FUEGO, provides early fire detection and mapping services protecting infrastructure and population. Key users can include forestry, fire and emergency services, local, state and federal governments, primary producers, mobile phone tower operators, power companies, and grid operators.
    - [BlocPower:](#) Utilizes its proprietary software for analysis, leasing, project management, and monitoring of urban clean energy projects. Its customers are saving 20-40% on their energy bills each year.

## PEACE AND HUMAN RIGHTS

Geopolitical, military, and cultural conflicts around the world continue to cause significant human rights harms. Many next generation leaders are taking action to address these issues by spearheading awareness campaigns, building communities of dialogue on and off campus, and bringing together diverse ethnic, religious, and political groups to forge effective, long-term solutions.  We are looking for ways leading-edge technology (e.g., 5G, big data, artificial intelligence or augmented/virtual reality) can be leveraged to build more peaceful, inclusive, and rights-respecting societies in the United States.

- **Resources**
    - [World Economic Forum, 2030 Vision - Technology for the Global Goals - 16](#)
    - [PeaceTech Lab](#)
    - [CES 2020, Peace Building and Technology](#)
    - [TED Talk, Gaming Can Make a Better World](#)
- **Examples**
    - [turnUP](#):  Uses AI to bring the surge of youth activities to the voting polls.

- - **Ameelio:** Builds free-to-use communications technology to connect incarcerated people with support networks, proving to decrease recidivism and sustainably reduce prison populations.
  - **Safe Lab:** Leverages natural language processing methods to examine the ways in which youth of color navigate violence on and offline.

**POVERTY ALLEVIATION**

The global rate of extreme poverty is increasing for the first time in over 20 years. Poverty is both a cause and consequence of inadequate education systems, scarce job opportunities, social exclusion, political instability, violent conflict, food insecurity, demographic pressures, and human migration. Students and universities are advancing economic equity through new innovations in the fields of financial sustainability, affordable technology, and agricultural development.

- **Resources**
  - [How AI and big data can be useful in monitoring and evaluating policy to address a lot of these aspects of poverty](#)
  - [Technology and the Future of Work](#)
- **Examples**
  - [Technological Advances to improve food security](#): This article identifies technical innovations and improved farming practices that increase agricultural production and productivity while also enhancing climate resilience. It also describes barriers to these innovations and possible solutions.
  - [Machine Learning used to map poverty zones](#): A new poverty mapping technique that uses machine learning to analyze high-resolution satellite images of likely poverty zones.

**PUBLIC HEALTH**

Our increasingly interconnected world enables health risks to spread quickly across borders, linking the health of the world's communities more closely than ever before. While many of the world's biggest public health challenges disproportionately affect under-resourced groups, and Black, indigenous, people of color (BIPOC), students are at the forefront of the movement to expand access to essential services and medicines by exploring innovative ways to promote health, prevent disease and improve access to quality care.

- **Resources**
  - [10 Ways Technology is Changing Healthcare](#)
  - [How Technology, Medicine, and At-Home Devices can Improve Healthcare Access](#)
- **Examples:**
  - [MUSE Biomedical:](#) A wearable medical device that will monitor the physiological effects of prescription opioid use in patients receiving non-palliative pain treatment in order to prevent life-threatening addictions and improve safety in North Carolina.
  - [AliveCor:](#) An app that turns your phone into a mobile EKG machine that can measure the heart's electrical activity. This app can make healthcare more affordable (replace larger, expensive equipment) and accessible (may allow patients to do more testing at home or through telemedicine).
  - [Tell Health:](#) Mobile platform that allows patients to easily link together everyone in their care network and communicate with their providers in a simple, clear and jargon-free way using text messages, pictures and video. The ability to provide culturally and linguistically appropriate services (CLAS) helps build trust and lasting engagement with patients.

# GETTING STARTED

Identifying the Problem

- What are you passionate about within this focus area?
- What personal connections do you have to this focus area?
- Where do you have firsthand subject matter knowledge or experience?

Understanding the Community & Identifying the Need

- Have you identified the specific geographic location your project will impact?
- What are the demographics of your target population/community?
- Have you been to this location or have community stakeholders with lived experience in mind who could help you implement your project?
- Have you researched the community you intend to work in or design with?
- How do you know that the problem you have identified is an issue for this community? Have you spoken with community members about current needs or challenges?

Technology

- How has technology provided improvements in this focus area up until now? How has it created drawbacks?
- What emerging technology areas (e.g. 5G, AI, XR) might have an impact in this space in the near future?
- How might technology be used to improve the delivery and/or the consumption of solutions in this focus area?
- What platforms can be used to support technology solutions in this focus area? How can we ensure equitable access if these platforms are utilized?

Additional Considerations

- What communities will be impacted, and how can you involve them in the design and delivery of your project?
- How certain is it that the intervention will achieve the desired outcomes and impacts? Is it likely that the intervention could produce unintended consequences?
- What is the potential impact of this project (e.g. number of people, depth of impact, duration of impact)?
- How might you address issues of safety and privacy that may arise from your project?
- Are there regulations in place that would prevent you from implementing your project? If yes, how will you address them?
- What is the community's relationship with technology? What barriers to usage do you identify? What strategies will you use to address them?
- How can you leverage Verizon's expertise, products, and connectivity to enhance or scale your project?
- How can you apply an intersectional lens to your project that considers how someone's race, gender, language, geography or ability might change how they interact with your product/service?
- How are you incorporating the  lived experience of your intended audience into the ideation and development process of your product?
- How could your project be scaled and replicated to positively impact other under-resourced communities? Is it flexible in order to evolve over time and meet evolving needs?