

## **OIC's Innovation Impact Challenge Initiative**

Innovation Impact Challenge (IIC) Technology Development Program

**Partner: Hawaiian Telcom**

2020-2021

OIC is launching the Innovation Impact Challenge program again this year. Our partner is Hawaiian Telcom. If you are interested in working on an innovative project with real-world impact, check out these three Challenges from Hawaiian Telcom.

### Challenge Statements:

#### **1. Hands-free underground communications utility locator.**

In today's world, identifying underground communications facilities requires a person to open the utility box and connect a clamp (the transmitter) to the wires. The person then traces those wires using a locator (receiver) which gets its information from the high frequency signal generated by the transmitter. This has pretty much been the same technology over the past 40 years.

HT is looking for two things: 1) eliminating or not requiring the clamp, 2) without using the clamp, be able to differentiate a cable TV cable (also known as coax) from a telephone cable (also known as copper cable).

Additional bonus points for being able to identify the quantity of each type of cable underground. Typically, these cables are underground at a depth of 18"-24" and would be along the sidewalk as well as road crossings. The results/output must be geocoded and importable into a kml/kmz file.

#### **2. Innovative ways to provide internet access.**

HT is deploying fiber optic communications through rural areas of the state. This is a massive transformation where residents and businesses currently have no internet, use satellite/wireless, or other technologies which are not conducive to tools which could literally transform their lives. The goal is to create a value proposition where the community/Hawaii/UH/businesses can measurably increase wellness of an area using existing resources.

#### **3. Resolving obstructed communications conduit blockages.**

Communications cables in underground conduits throughout Hawaii are along sidewalks, streets, and even going onto private property. Given the dynamic nature of our soils and terrain, those conduits occasionally get clogged/stuck which prevents companies like HT from putting in new cables or replacing existing ones. Repairing conduits are expensive, disruptive, and normally do not represent a reasonable return on investment when it is only feeding a single customer. Traditional methods of clearing conduits include power washing. HT is looking for new and creative solutions.

*A faculty member must be a part of any team that participates. Pitch presentations occur in Spring 2021 and funding to support solution development is awarded to select projects.*

**Interested in participating or learning more, please contact Sandra Fujiyama, [sandra.fujiyama@hawaii.edu](mailto:sandra.fujiyama@hawaii.edu) or visit our website - <https://www.hawaii.edu/research/innovation-impact-challenge/>.**



2425 Campus Road, Sinclair 10  
Honolulu, HI 96822  
[uhott@hawaii.edu](mailto:uhott@hawaii.edu)  
(808)956-9024