# Unit 1 Fintech Domain Case Study CommunityFi

Enterprise Solutions: Using IoT protocols to benefit the greater community.

## Overview and Origin.

CommunityFi is a recent start-up company that is focusing on delivery services to de-risk losses of Not-for–profits and budget community services utilising IoT. CommunityFi is driven by low cost innovative methods using the Helium network to provide services and connect the community. Their mission is; to improve critical community services from farms to food pantries using sensor technologies from motion, refrigeration temperature monitoring to vehicle tracking. Their aim is to protect 3 million meals by 2023.

Co-founded by Eugene McGrath and Andy Bonomo, much focus went into development, testing and growth prior to going public in January in 2022. The pair had a common vision of using tech to solve problems, help society, and give back to the community. They started by deploying antennas for hotspot mining and shortly after moved into sensors. Establishing a greater need of service for the less fortunate, they amended their business plan from 3 years to 3 months. Refining sensor solutions, Communityfi for good looked into food pantries and food banks however note that their solutions can expand into any non-profit. A key success is providing vital community services temperature monitoring at no cost. The small data packets are sent over the helium network to subsidise the cost of sensors and services.

Communityfi builds dashboards that can alert the organisation and provide monitoring solutions from source to fridge include metrics now covering local geography, residential monitoring and water leak detection monitoring at locations with no power. A battery powered sensor is used to communicate over distance using LoRaWan if it is in the range of a connected antenna.

In addition to their food and beverage services, CommunityFi has expanded their business offerings to include tracking vehicles, wearables for people’s safety and tracking of pets to keep safe. In addition to this agriculture monitoring including soils, moisture, irrigation monitoring using the low cost of the helium network. As long as the devices can reach other people’s antennas, encrypted data can be sent analysis and presented in dashboard format. In the case of GPS tracking, the sensors ping of antennas along its path providing latitude and longitude coordinates.

## Business Activities.

Competitors in the social application of similar technology roll outs are very few and far between. It appears that the Not-for-profit take up of leading edge technology is low. With the ever reducing cost of monitoring and compliance, this may not continue to be the case. Researching competitors in the not for profit field was challenging. One company that has been deploying similar services such as monitoring for food safety applications including intelligent alerts did present many similarities.

ConnectedFRESH, a For-profit company, offers very similar services with a focus on analysis and specialised solutioning using the LoRaWan network and AWS for services for analysis and dashboard presentations. This is the only near match to Communityfi and is marketed at the higher end producers and transport operators. I would consider that there is no competitor aimed at helping low budget community organisations such as food backs and soup kitchens in the market currently

Exciting Communityfi stats and directions;

* Communityfi sensors: currently protecting 1000 meals per week
* A Communityfi key goal is to protect 250,000 meals per week at no cost while reducing food loss and waste
* Developed motion sensors, room sensors for theft of goods and vacant property monitoring (even with no connected power)
* Looking to expand to their community suppliers including supermarkets and transport operators
* Are developing long range wireless tracking lobster traps in the ocean.
* Sensors are able detect leaks in vacant properties
* Will look at development that is driven by need
* Wearables market is being developed to keep elderly safe or for pet tracking
* CommunityFi for all… on boarding with dashboards
* Sensor as a service roll out to any community member for use through the Helium network.

Communityfi’s original business case is based on the rollout of antennas to be used as hotspots that act as nodes. These provide connectivity to nearby devices earning HNT tokens to be used or exchanged. The Helium network is ideally suited as it does not have data caps, over-charges or sim cards to operate and is reported to provide up to 200 times farther connectivity using a combination of LoRaWan and Helium’s long Fi wireless technology.

“***The Helium Network is a blockchain-based cryptocurrency aimed at creating a decentralised wireless network, one that isn't reliant on satellites or cellular tower infrastructure. Helium lets anyone own and operate a wireless IoT network using a special, small-router radio device called a hotspot***.” (FXCM).

HNT token are rewarded to hotspots which are paid out based on the volume of data processed amongst other variables in addition to being awarded Helium Data Credits. Communityfi uses these to offset the costs of hardware used to service the requirements of Not-for-profit community based organisations.

## Next Steps

Communityfi should be looking to advance their offerings in line with the advancing Helium network protocols of HIP 51 -53 which is being developed and tested for existing infrastructure including the cellular 5G network. Continuing on their proven system with the added flexibility of long range wireless technology could open up further agriculture opportunities in the for profit space. Board acre farming applications include microbial and moisture monitoring would open an automated. Currently an expensive and manual process, an automated service could save the tight farming budgets up to $50,000pa.

Communityfi’s “Sensors as a service” business model should assess the viability of integrated LoRaWan to cellular connectivity hubs for distribution in geographically challenged area such as mountainous or vast rural areas. Wireless technology is excellent provided there is no terrain conditions blocking line of sight for the radio signal. Adapting into other networks such as cellular gives a greater application of the current business model.

Offerings that keep pace with the Helium protocols would also keep Communityfi at the forefront of technology whilst opening doors to regional areas. These areas offer less competition from current players in the market making a relatively low cost market to fully saturate. Once fully captured, these opportunities would make it challenging and less viable for private companies to penetrate with expensive products or services.

## Appendix

Website; <https://bit.ly/3A3RuqX>, Using Helium for Good: Welcome CommunityFi to the Ecosystem, YouTube

Website; <https://communityfi.io/communityfi-for-good>

Blog; <https://communityfi.io/blog/f/iot-for-all---earning-more-revenue-with-comunityfi>

Blog; <https://communityfi.io/blog/f/helping-our-communities-through-technology>

Website; <https://www.connectedfresh.com/company>

Blog; <https://www.connectedfresh.com/blog/our-beginnings-in-produce-distribution>

Website; [Complete Guide To Helium Mining | FXCM Markets](https://www.fxcm.com/markets/insights/helium-mining-guide/#:~:text=A%20Helium%20hotspot%20is%20a,devices%20that%20act%20as%20nodes.)

Website; https://www.heliium.com/token, [HNT and Data Credits (helium.com)](https://www.helium.com/token)

Website; https://gemini.com/cryptopedia/helium-network-token-map-helium-hotspots-hnt-coin#section-a-network-of-helium-hotspots, [Helium Network: Proof of Coverage & Helium Hotspots | Gemini](https://www.gemini.com/cryptopedia/helium-network-token-map-helium-hotspot-hnt-coin#section-a-network-of-helium-hotspots)