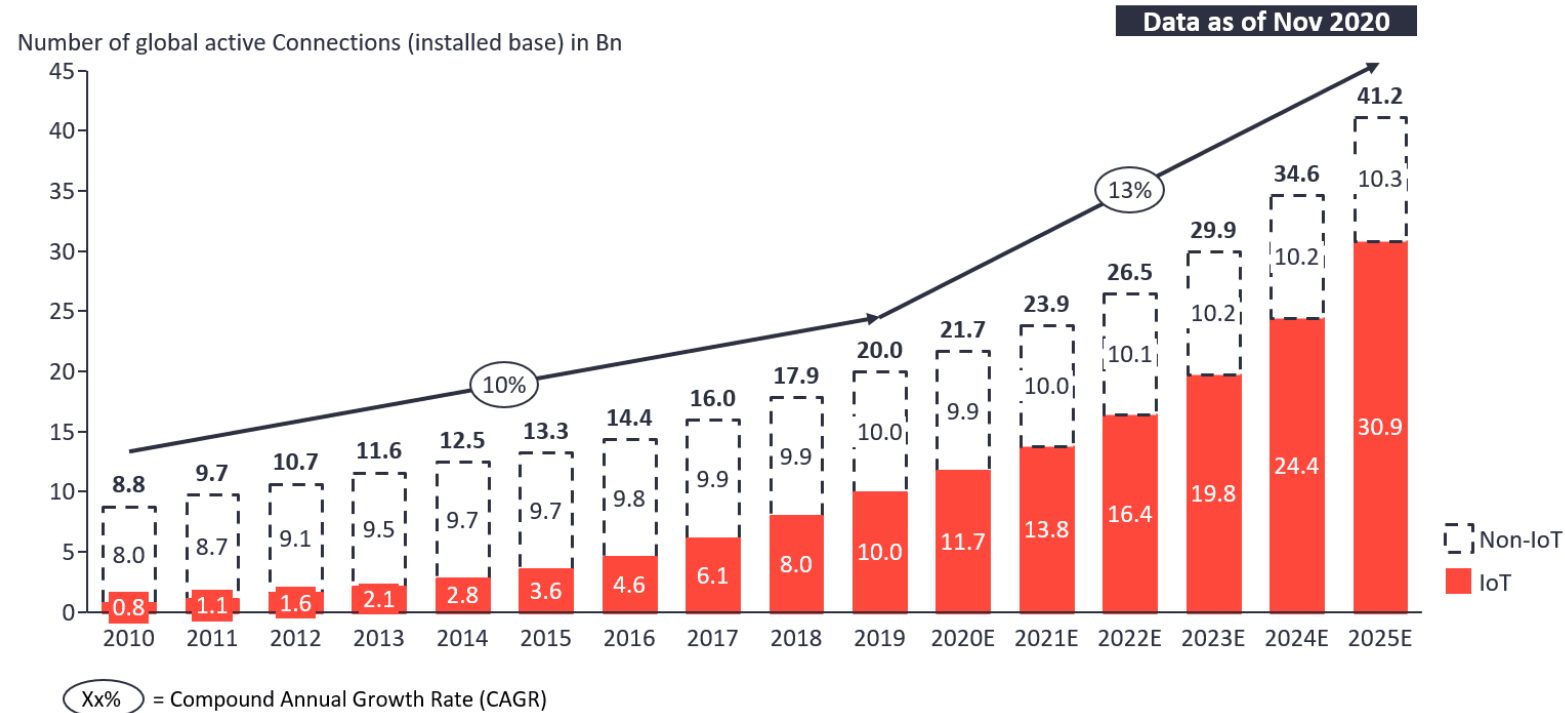


# APOLLO

Provenance DApp that integrates Internet of Things devices with the Solana

# Total number of device connections (incl. Non-IoT)

20.0Bn in 2019– expected to grow 13% to 41.2Bn in 2025



Note: Non-IoT includes all mobile phones, tablets, PCs, laptops, and fixed line phones. IoT includes all consumer and B2B devices connected – see IoT break-down for further details

Source(s): IoT Analytics - Cellular IoT & LPWA Connectivity Market Tracker 2010-25

The Internet of Things is a great mover that connects people, places, and products. With that it offers opportunity for huge value creation and capture. Microcontrollers, sensors, actuators, and telecommunications are embedded into the physical world transmitting data to the Internet. It will explode in the coming years reaching Billions and Billions of Devices.

But it has two main problems and limitations, namely scalability and security.





The internet of things has been associated with major cyberattacks, often involving the abuse of vulnerable connected devices. Blockchains offer a tacit solution for this, which is implied by its essential architecture.





**But the main problem is scalability. The two main technological solutions that are rolling right now two solve the problem of congested 4G networks and low coverage of longFi are 5G and mesh networks, if we are gonna employ a blockchain, it has to be one with great speeds and easily scalable or it will not be able to function properly with these two technologies.**

**As engineers we can see the  
NEED for that and the niche a  
solution would cover.**

# A problem for our PoC



**Globally, the trade in counterfeit pharmaceuticals is worth up to \$200 Billion USD. A surge in counterfeit and poor quality medicines means that 250,000 children a year die after receiving shoddy or outright fake drugs intended to treat malaria and pneumonia alone.**





**This is a problem that can be tackled by the union of blockchain and IoT with immutable provenance and tracing solutions. Of course, we also NEED a scalable and fast blockchain, for which Solana is perfect.**



## Solution



# APOLLO

See our demo at:

<https://www.youtube.com/watch?v=sUAdnfDavvE>

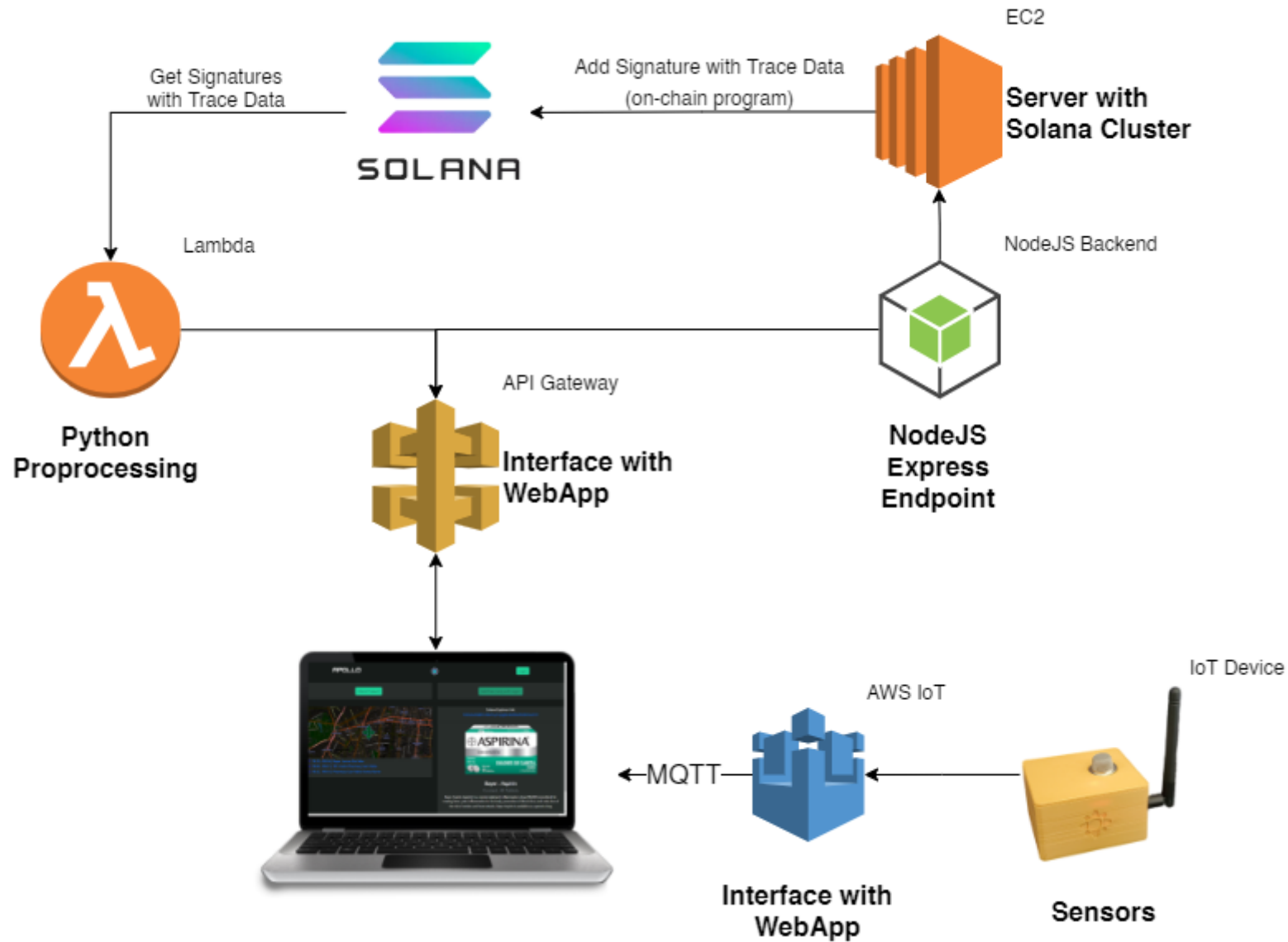
**Apollo is a way to seamlessly connect IoT devices to the Solana blockchain, that provides extra services like provenance and tracing for supply chain applications.**

Github Repo and more at:

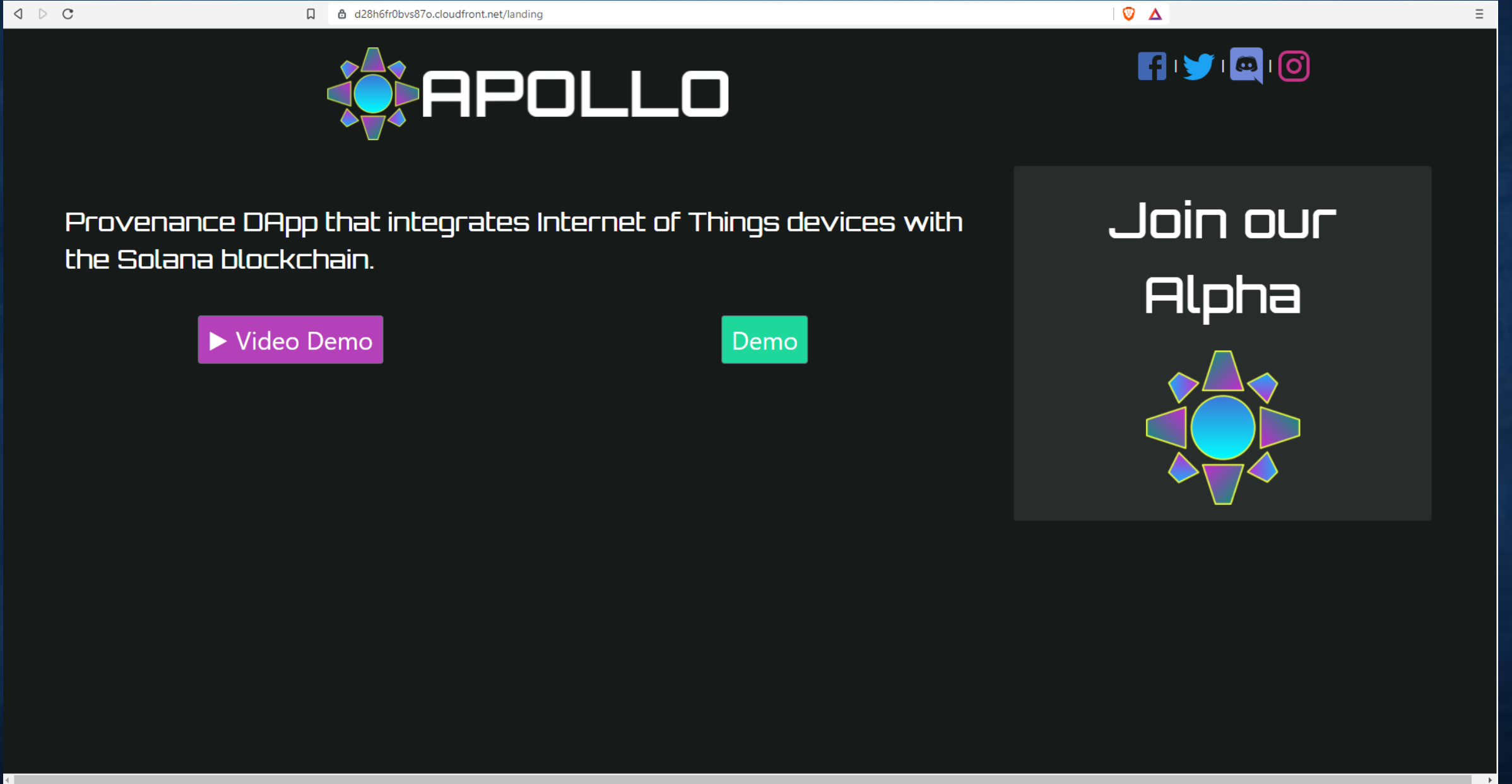
<https://github.com/altaga/Project-Apollo>

You can see extensive documentation of the build process in this part of our Repository: <https://github.com/altaga/Project-Apollo/blob/main/Tech-Docs/README.md>

# System Architecture







Landing Page

APOLLO

Check Product!

Login

Email

with a placeholder

Password

password placeholder

Login

Cancel

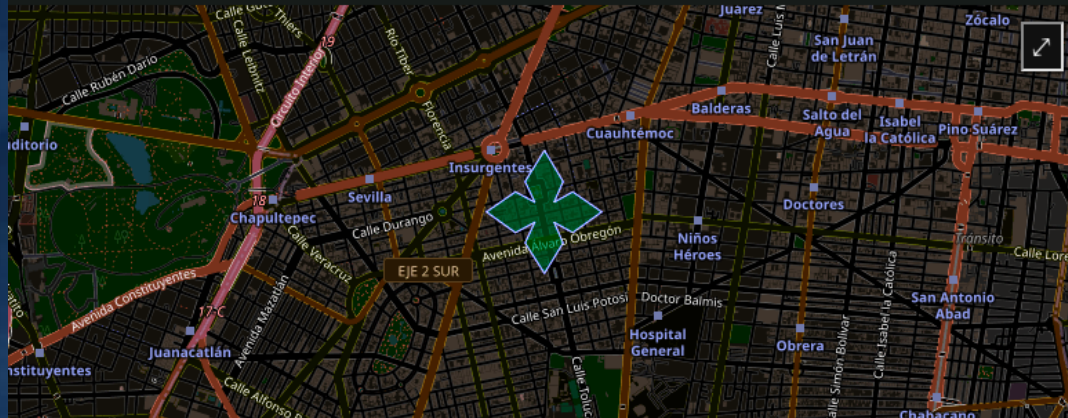
Login

Add Trace (only with Login)

Login

Check Product!

Add Trace (only with Login)



1. 19.28, -99.54 | Bayer Lerma Edo.Mex
2. 19.69, -99.21 | TR1 Cedis Pharmacy San Pablo
3. 19.42, -99.16 | Pharmacy San Pablo Roma Norte

Solana Explorer link:  
[7i2EGA2XQBPcn9bi7Liy1Gj4gNnKtX9GZfVJ8HhzzH5T](https://explorer.solana.com/address/7i2EGA2XQBPcn9bi7Liy1Gj4gNnKtX9GZfVJ8HhzzH5T)



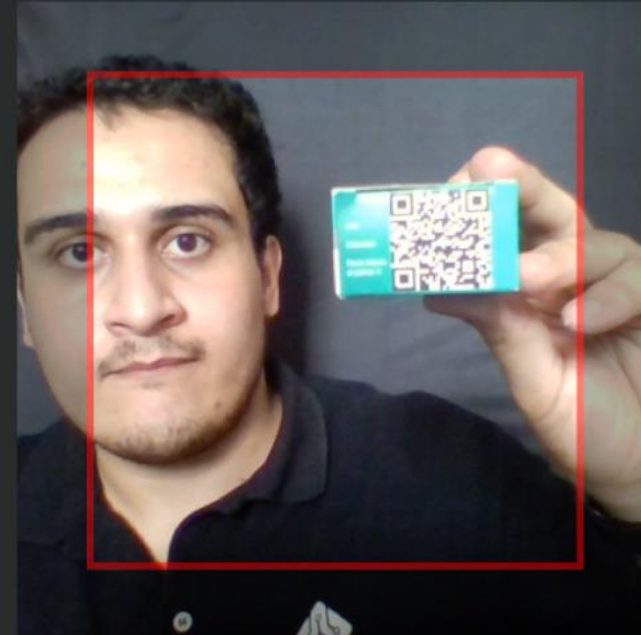
**Bayer : Aspirin**

Content: 40 Tablets

Bayer Aspirin (aspirin) is a nonsteroidal anti-inflammatory drug (NSAID) prescribed for treating fever, pain, inflammation in the body, prevention of blood clots, and reduction of the risk of strokes and heart attacks. Bayer Aspirin is available as a generic drug.

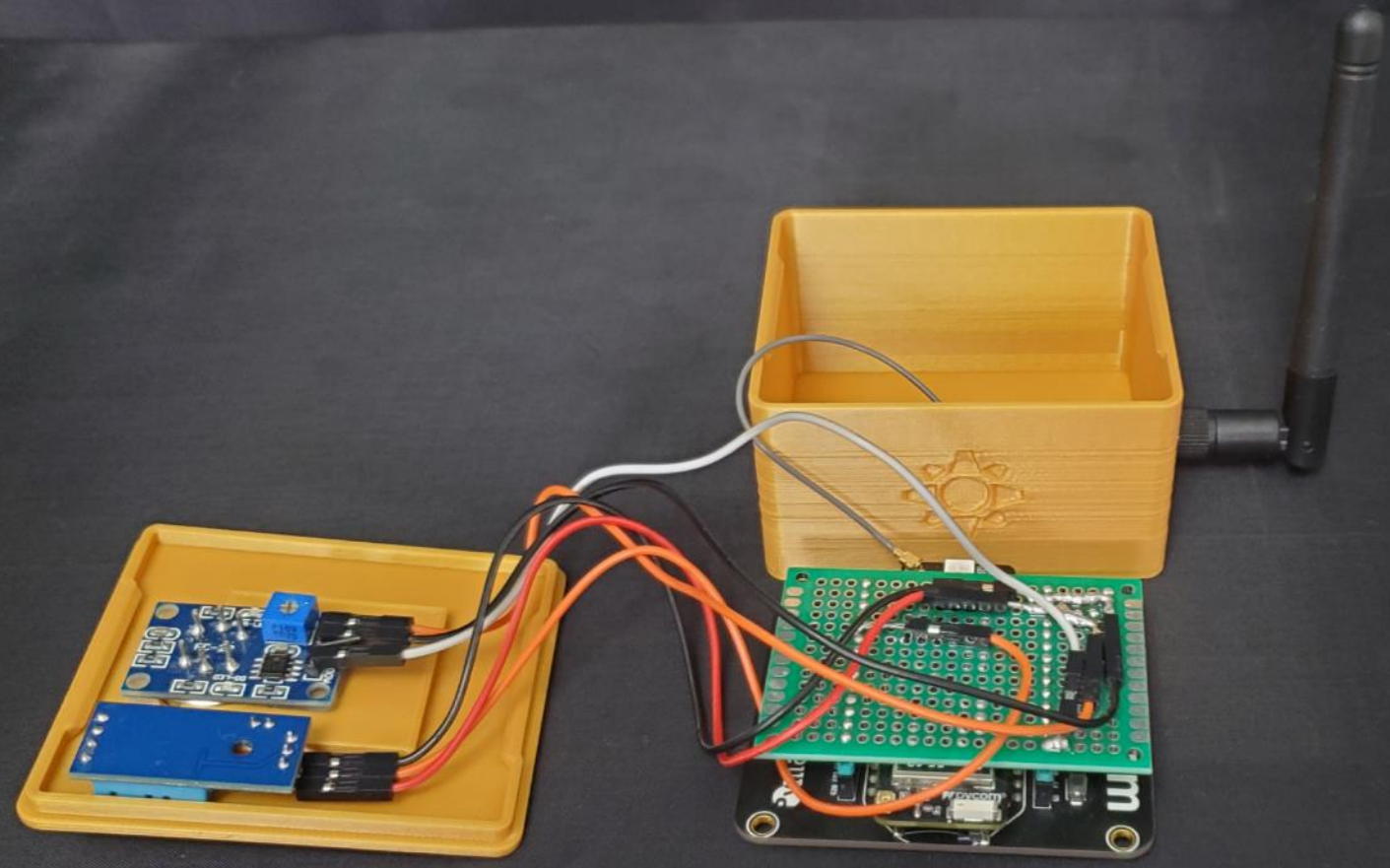
Warning: You should not use aspirin if you have a bleeding disorder such as hemophilia, a recent history of stomach or intestinal bleeding, or if you are allergic to an NSAID (non-steroidal anti-inflammatory drug) such as Advil, Motrin, Aleve, Orudis, Indocin, Lodine, Voltaren, Toradol, Mobic, Relafen, Feldene, and others. Do not give this medication to a child or teenager with a fever, flu symptoms, or chickenpox. Salicylates can cause Reye's syndrome, a serious and sometimes fatal condition in children.

**Provenance centered service**

[Check Product!](#)[Add Trace \(only with Login\)](#)

**Taking a reading**



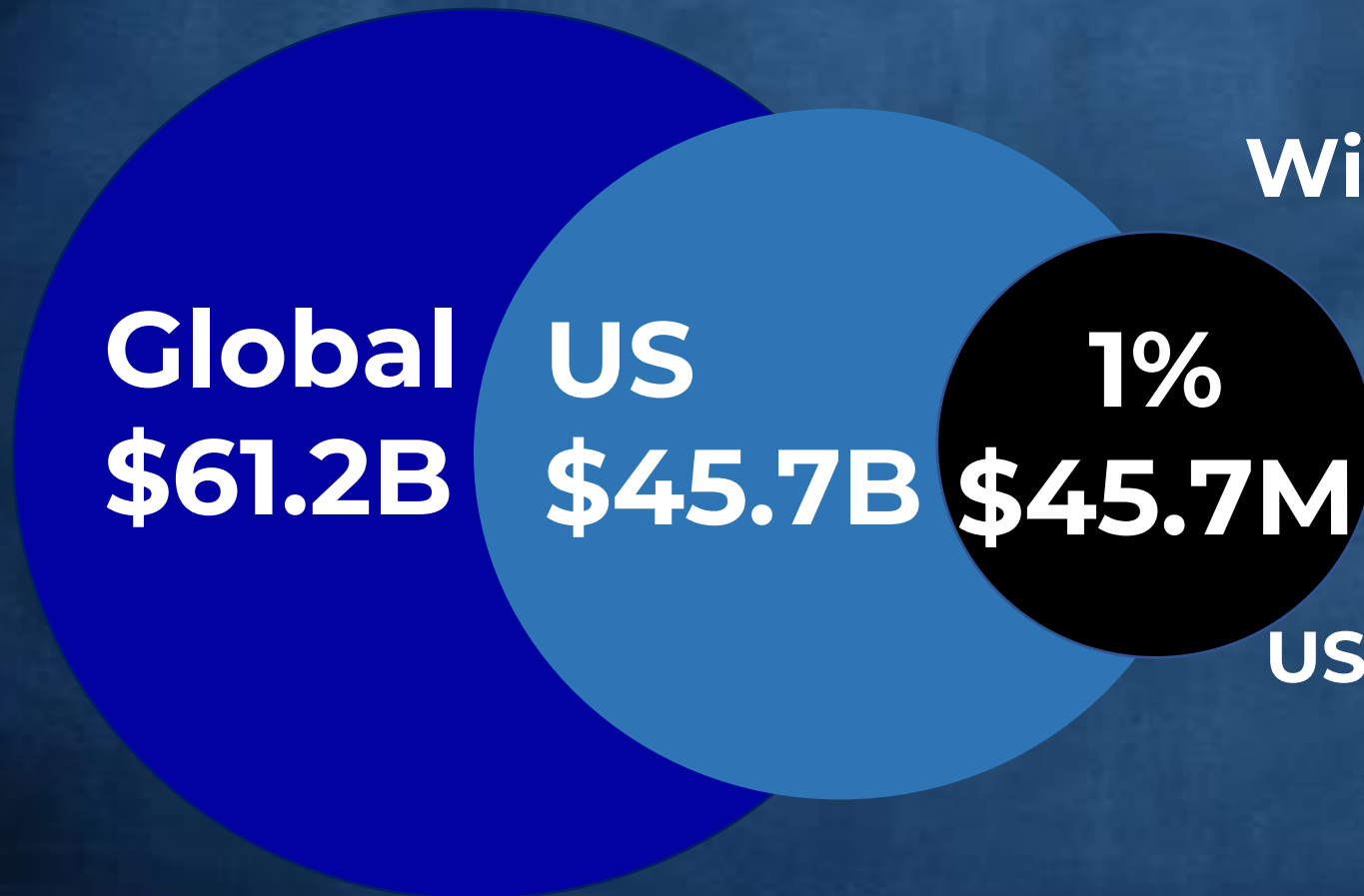


**In-house built 4G tracker with environment sensors**

# Business Model

- We plan on incorporating the same business model that Ubidots, AdafruitIO and other incumbents follow, with heavy inspiration also on how the Helium blockchain and how it manages its device subscription: <https://www.helium.com/>
- Of course, Helium only works with longFi IoT devices that are connected into its own infrastructure, but nowadays most tracking, sensing and supply chain solutions are not really based on LoRa or LongFi but are 4G based and make use of other technologies such as WiFi and others, and that's the niche we will attack.

# MARKET



Will grow at a rate of **22%**

USD **559** billion by 2025

# GO TO MARKET STRATEGY

1

Phase 1: Pilots/Alpha

Q3 2020

2

Phase 2: Beta/Exploring monetization

Q4 2021

3

Phase 3: Launch

Q1 2022



**Our aim is to become a software and services project wrapped in hardware.**



# TEAM



Luis Eduardo Oliver

- Product development
- Publications in high-end journals
- Blockchain.



Víctor Altamirano

- Multi-Prized IoT solutions.
- Deep Learning and Computer Vision
- Cloud & Dev-ops



Alejandro Sánchez

- Sector Expertise
- Expertise on Regulations
- Machine Learning





 ProjectApollo

In order for IoT to take the next step and solve its problems of scalability and security, it needs solutions such as the one presented here. This solution explores a niche that is very prevalent in the industry and will be for many years as the availability of developers that can join the two technologies is minuscule.

Thank you!