



CERES Technology

**Blockchain-Enabled IoT
for the Supply Chain of
Perishables**

What CERES is Solving

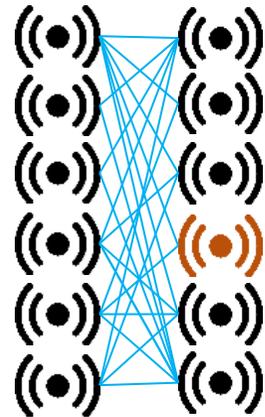
- 40%, or \$350 billion, of perishables are spoiled throughout the supply chain
- \$15.6 billion (money spent by the CDC alone) to trace perishable goods
- Average loss of cargo theft is \$200,000 (average is \$500,000 for medical)
- Only 26.2% of lost cargo is recovered



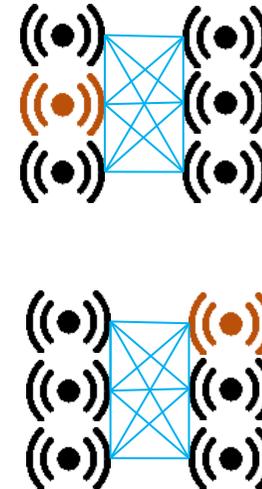
Ceres Smart IoT

Gateway & Sensor combo:

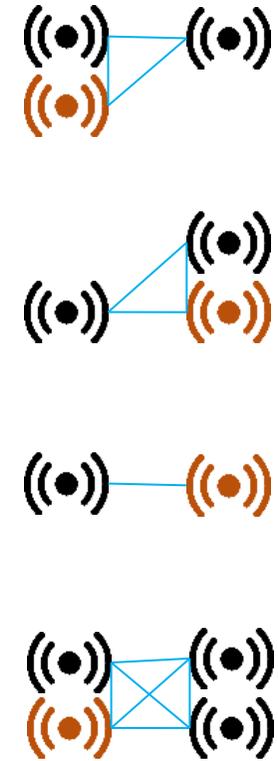
Each sensor suite (e.g. location, temperature, humidity, pressure, moisture, luminosity, etc.) to have “gateway” capabilities to transmit data to the blockchain, in near real time, via GSM and WiFi.



A shipment with multiple pallets fitted with the sensor / gateway combo will form a mesh network through a self-forming mechanism based on Bluetooth standards. A “supervisor” will be selected to act as the gateway based on battery and connectivity.



If shipments are to split, the pallets will form separate networks, each selecting their own supervisor to act as the gateway. This process eliminates the need for physical scanning (e.g. RFID) allowing pallets to move organically and relay data at any given location throughout the supply chain rather than forcing pallets to move through specific routes (e.g. RFID).



Blockchain Benefits

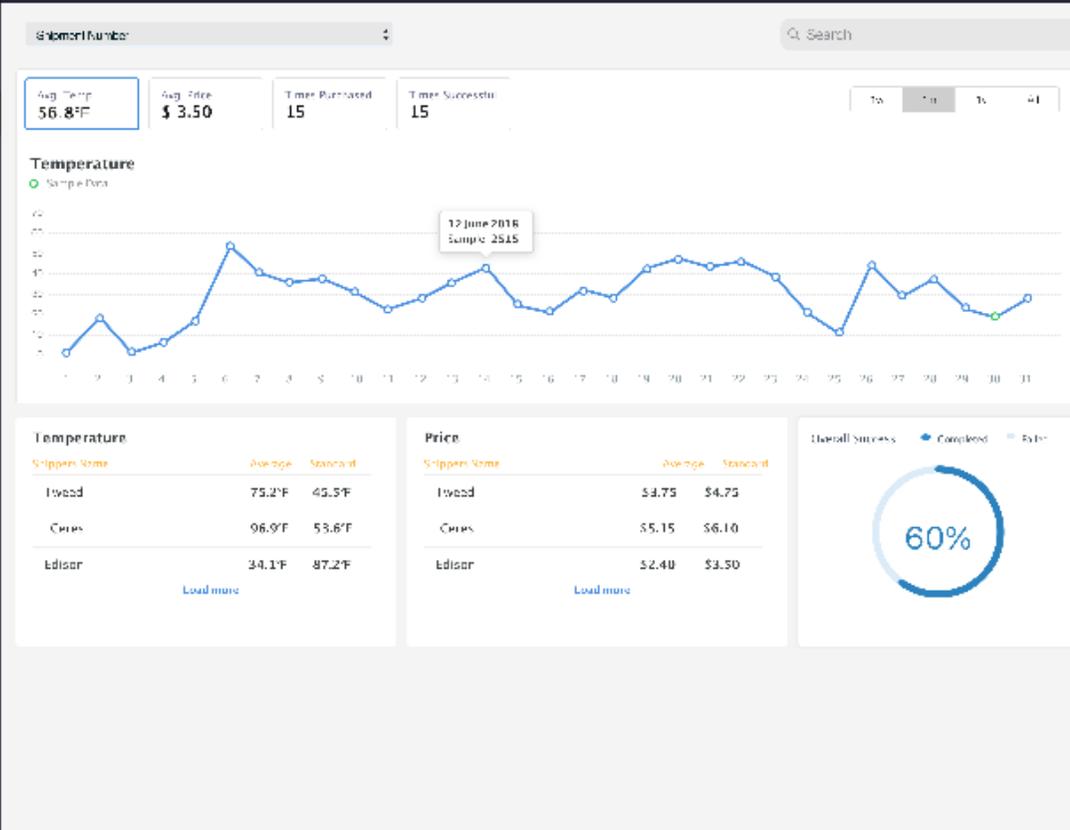
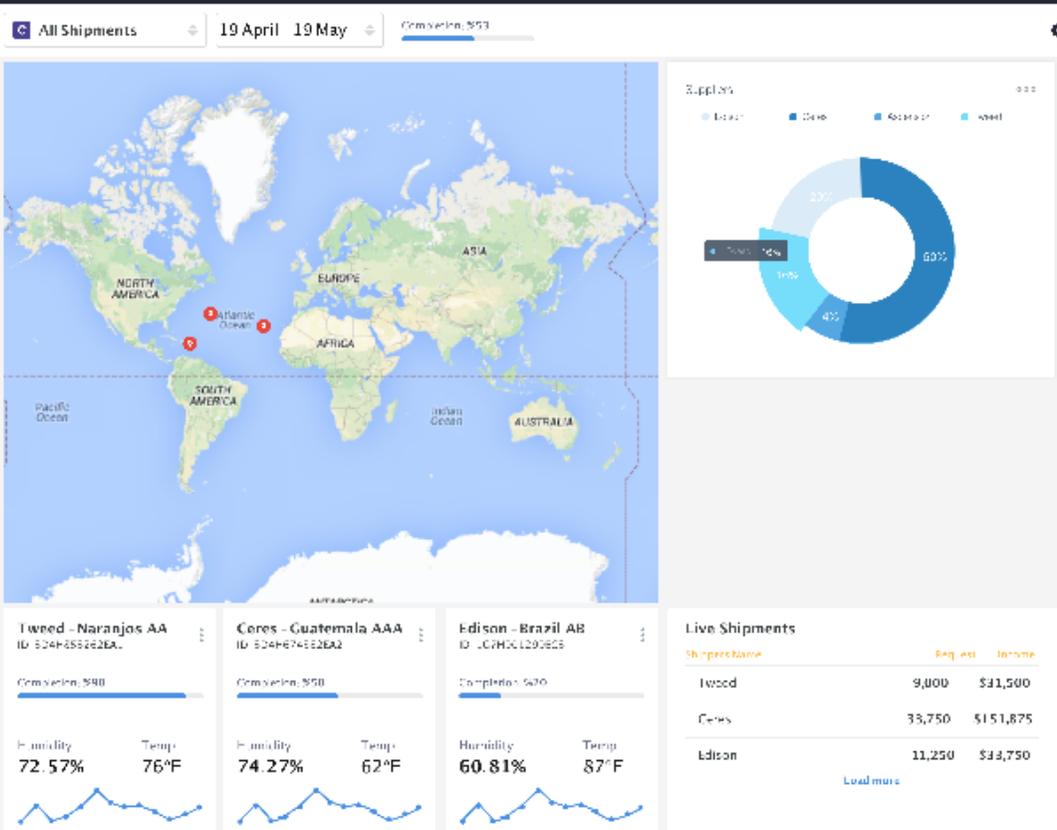
Smart Contracts

- We constantly monitor environmental conditions that can degrade a product's quality using IoT sensors. We create contracts that define an acceptable range of climate metrics to guarantee there is no quality loss.

Payments

- Using blockchain methods, automated payments can be performed almost instantaneously and with minimal fees as compared to traditional ACH payments, banking, and merchant providers.





Strictly Private & Confidential

How to View Everything?

Ceres provides users machine learning for predictive analytics and a website to view all the information about each shipment bag with full transparency and traceability as the shipment travels to the buyer.

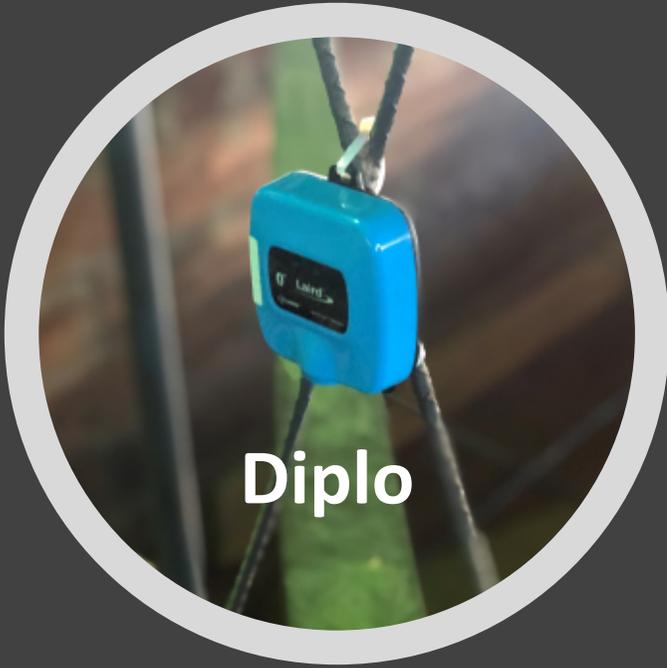
El Borbollon

- Product Deployment – January 14th
- Track processing conditions at the coffee mill
 - Temperature & Humidity of the coffee bean at the:
 - Wet Mill
 - Drying Beds
 - Warehouse
 - Dry Mill

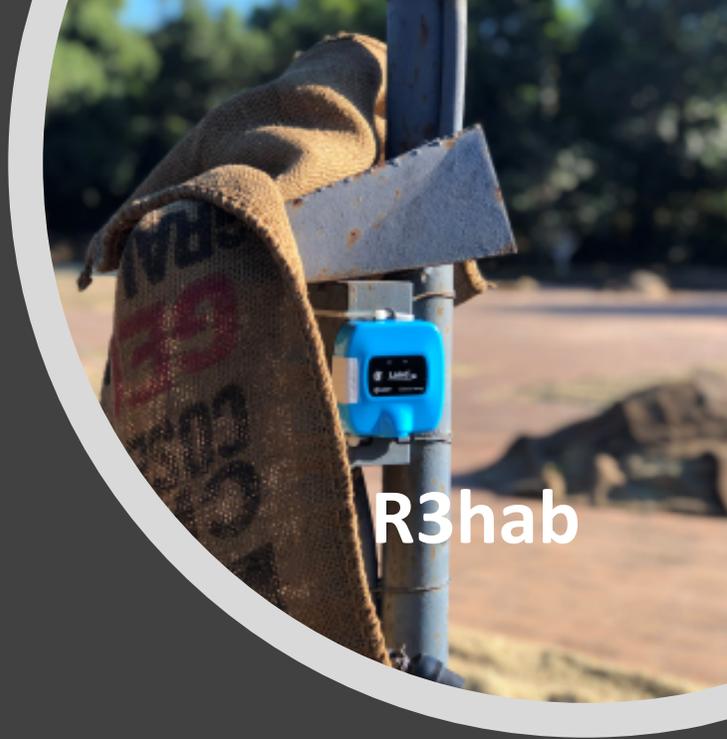




Skrillex



Diplo

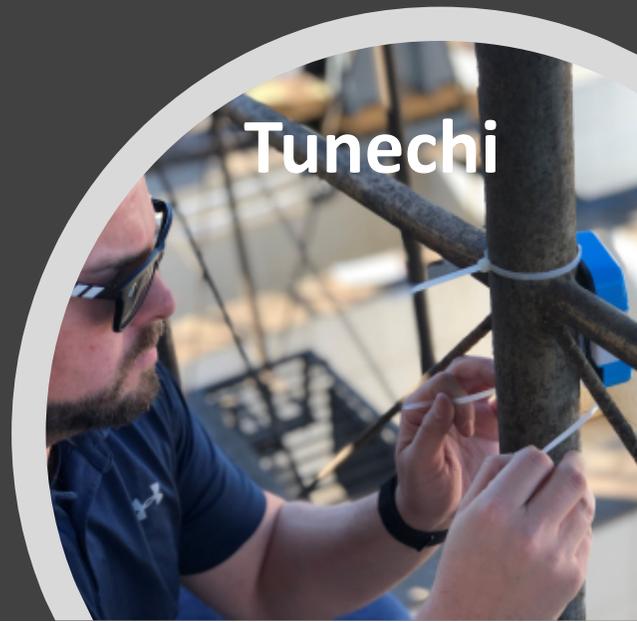


R3hab

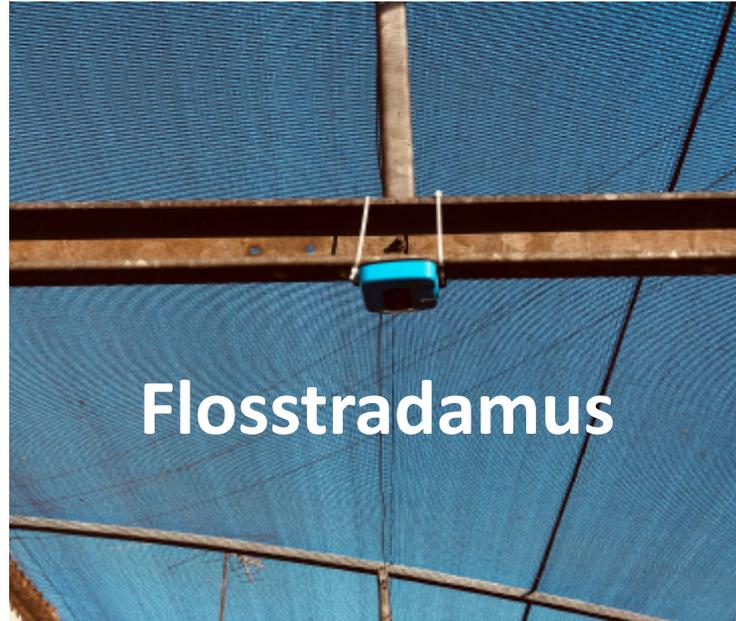


2 Chainz

Sensors Across the Mill



Tunechi



Sensors Across the Mill v2

Total = 32 Sensores.

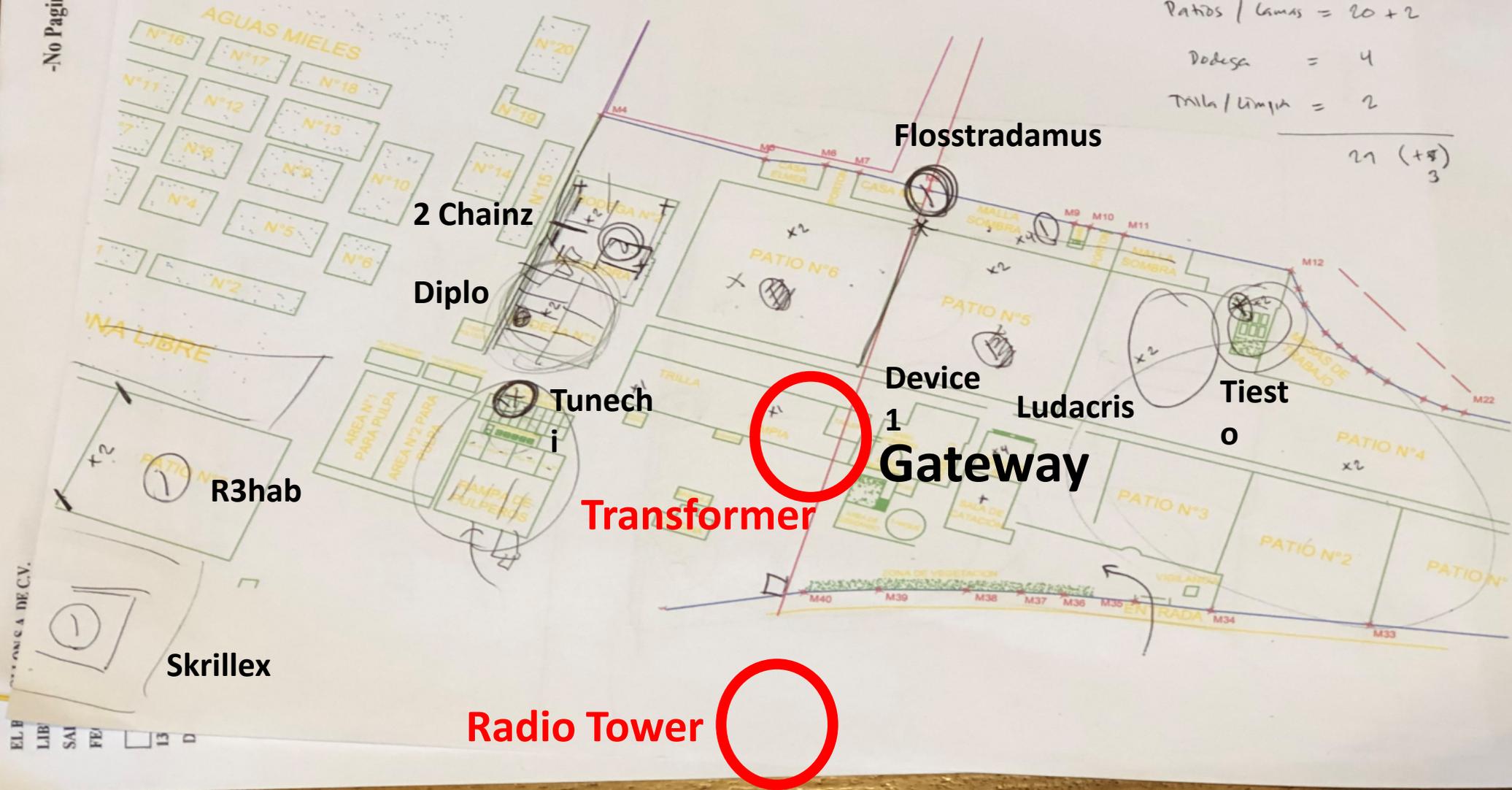
Fermentación = 3

Patios / Casas = 20 + 2

Dodge = 4

Trilla / Limpia = 2

27 (+8)
3





Show items

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Sensor Id	Zone	Min	Max	Sample Rate	Measurement
1-Dewler - 0000107	Two	40.5	51.5	Hourly	Humidity
4-Chance - 0000101	One	48.5	58.5	Hourly	Temperature
Battery Spans - 0000107	Two	55.5	55.5	Hourly	Humidity
Battery Spans - 0000102	Three	58.5	58.5	Hourly	Temperature
Evapotranspir - 0000109	One	10.2	11.2	Hourly	Humidity
Evapotranspir - 0000105	One	48.5	58.5	Hourly	Temperature
1-Dewler - 0000101	One	10.2	11.2	Hourly	Temperature
Lullars - 0000106	One	58.5	48.4	Hourly	Humidity

Scan me

Current Partnership Discussions

- In the process of becoming official IoT partners with both AT&T and T-Systems (parent company of T-Mobile)
 - Both companies have applications for our technology to their clients (e.g. organ transplants that require temperature & time monitoring)

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