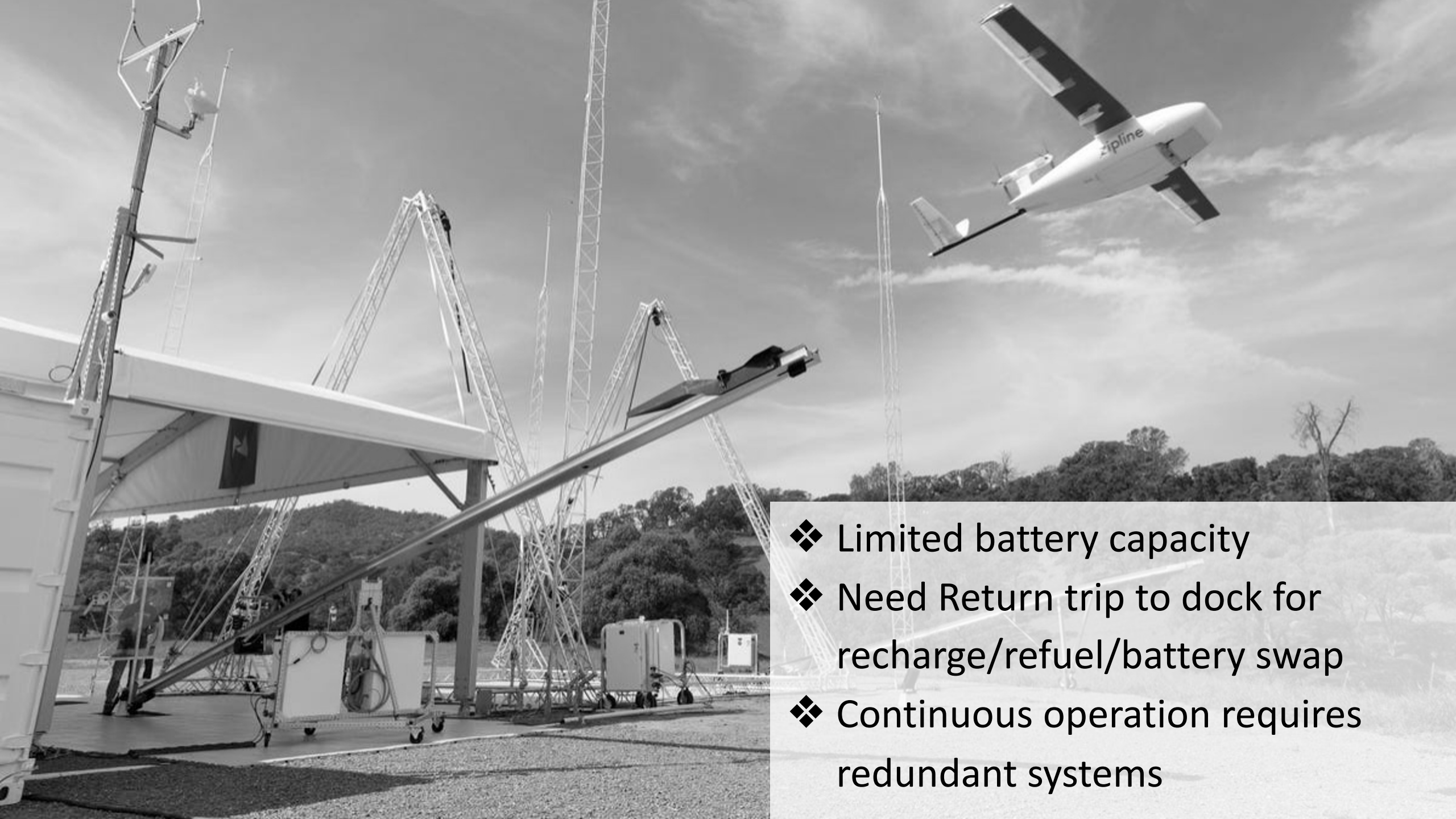




FRESNEL

Backed by  ANTLER

Milun Moghe
Founder of Fresnel



- ❖ Limited battery capacity
- ❖ Need Return trip to dock for recharge/refuel/battery swap
- ❖ Continuous operation requires redundant systems

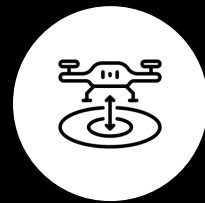


wireless power to charge robots **while in motion** over long distance using microwaves

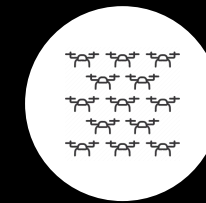
Benefits



>10X
payload
capacity



>100X
Endurance



$\frac{1}{2}$
Fleet Size

AT&T for wireless energy



Power Beaming history



[Get Full Transcript](#)

1975 NASA JPL Goldstone Demo of Wireless Power Transmission



NEWS | April 20, 2022

NRL Conducts Successful Terrestrial Microwave Power Beaming Demonstration

By Paul Cage, U.S. Naval Research Laboratory Corporate Communications

WASHINGTON – A team of researchers from the U.S. Naval Research Laboratory recently demonstrated the feasibility of terrestrial microwave power beaming by transmitting 1.6 kilowatts of power over 1 kilometer (km) at the U.S. Army Research Field in Blossom Point, Md., the most significant power beaming demonstration in nearly 50 years.

Why this hasn't been done

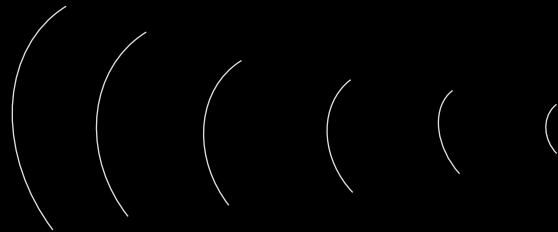
- Static Only (not to a moving object)
- Efficiencies and power levels were low
- Expensive
- Short Distance

This is a hard problem,
we have figured it out

DC -> RF -> DC



Transmitter



Receiver

high power DC->RF->DC efficiently
track moving objects in real-time

Team that can build->measure->learn **fast**



Milun Moghe – CEO
Hardware Engineer
Previous Co-founder at RFIC
8+ years in IC design, antennas

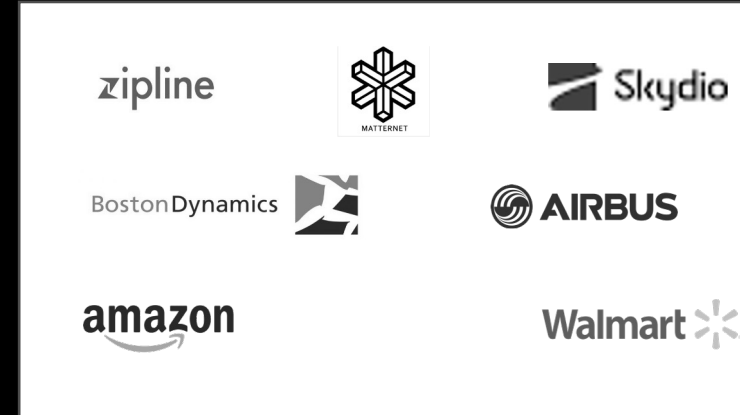
Multi-Disciplinary Team

**Microwave, Embedded Systems,
Analog and Software**



intel®

Dual use

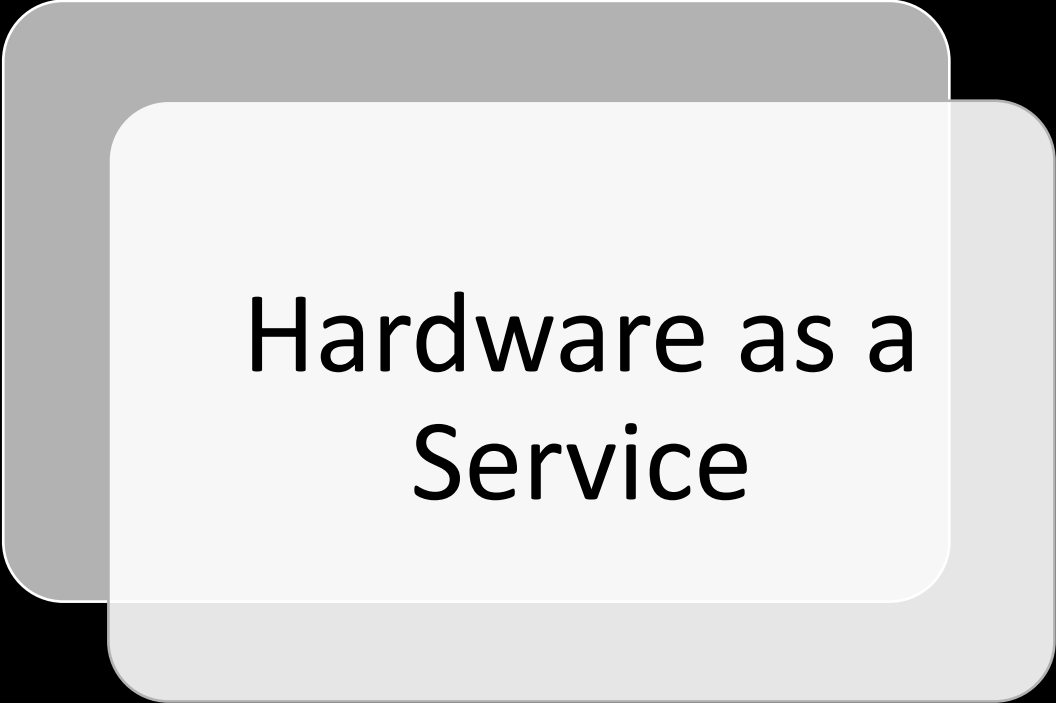


Commercial



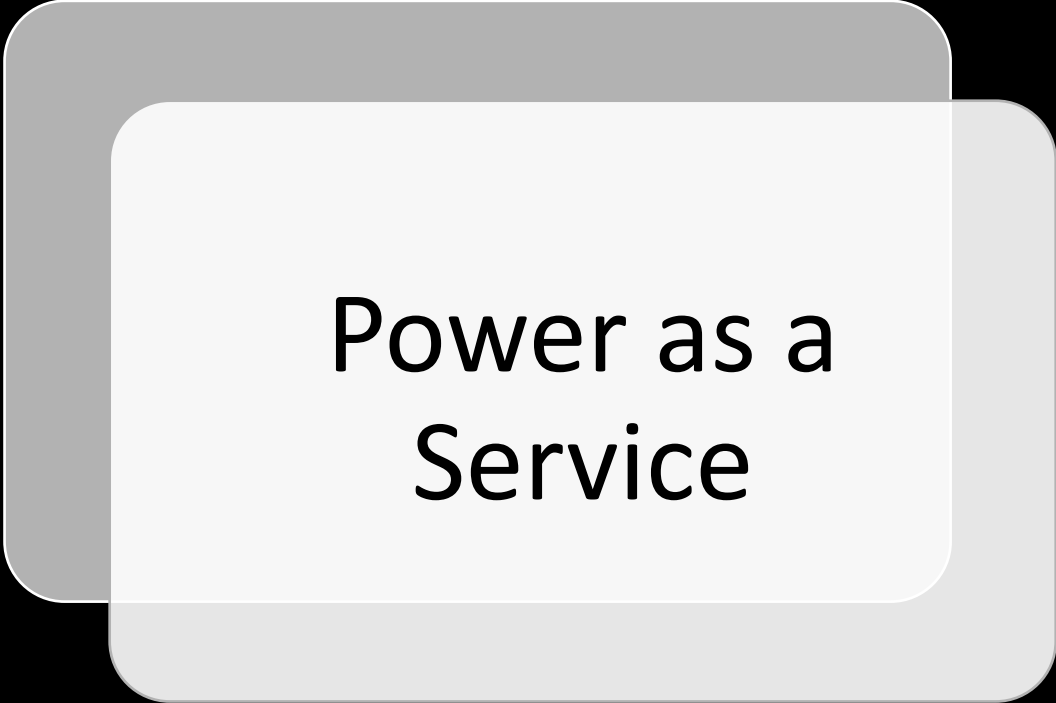
US Gov

Business Model



Hardware as a
Service

The diagram consists of two overlapping rounded rectangles. The front rectangle is white with a thin black border, and the back rectangle is a light gray color. The text 'Hardware as a Service' is centered within the white rectangle.



Power as a
Service

The diagram consists of two overlapping rounded rectangles. The front rectangle is white with a thin black border, and the back rectangle is a light gray color. The text 'Power as a Service' is centered within the white rectangle.

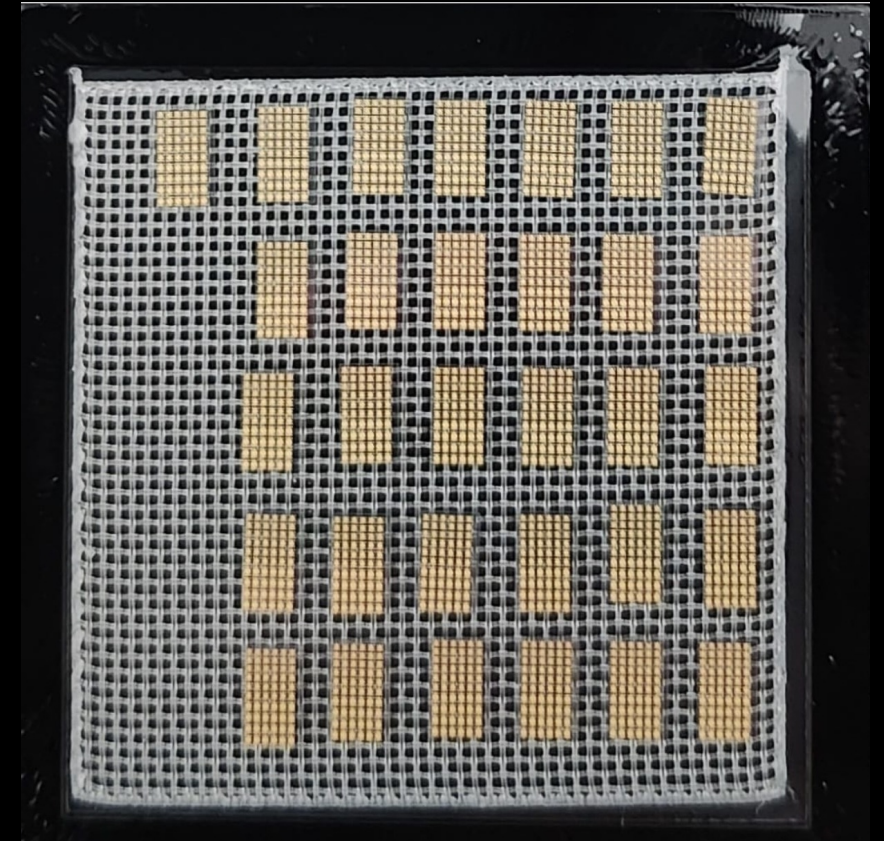
Progress

Received converter chips from fab

We've designed antennas, built software to track drones real-time

Initial traction with commercial and government customers

Filed 4 patent applications, 20 more in progress



Funding

- Raised \$500K to date -> 
- Hired Founding Engineering Team, Building Prototype (Demo Platform) by Q3 24
- Raising \$2M
 - 24 months of Runway
 - Build Product
 - Deliver Customer pilots (Q4 2024)
 - Get to Production samples (Q3 2025)
 - Production deployment and revenue in 2026



wireless power will reduce our reliance on
batteries and make this world a greener place



FRESNEL



FRESNEL

AT&T for wireless energy

Table # 10

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Thank You

