



Fighting Treetop Fire

Remote wildfire fighting system

Defoliating a control line dynamically

Mr. Leigh Daniel, Founder

Mr. Noach Cholev, Co-Founder

Dr. Zvika Avni, Forester Ecologist

Host
 **SWISS KRONO**



HOLZ INNOVATIV

DISRUPTION IN FOREST INDUSTRIES

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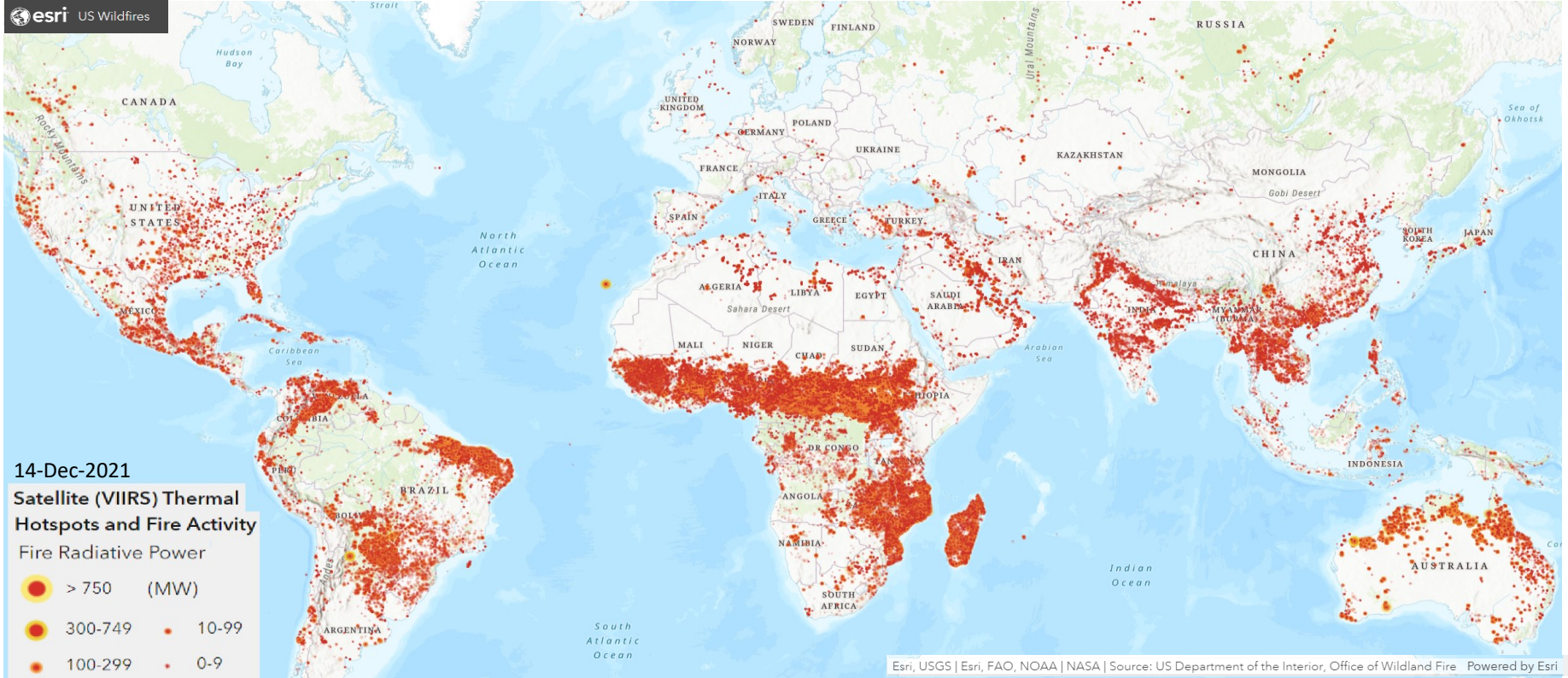
Tel: +972-50-8498118

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info@FightingTreetopFire.com



World's Wildfire Problem



Problems

Annual Effects

The Product

Effectiveness

Market Landscape

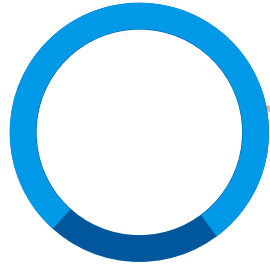
Business Model

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Wildfire Problem



30% increase in number of extreme fires by 2050

14% increase in frequency of extreme fires by 2030

70,072 wildfires

7 million burned acres

90% wildfires in US are caused by people



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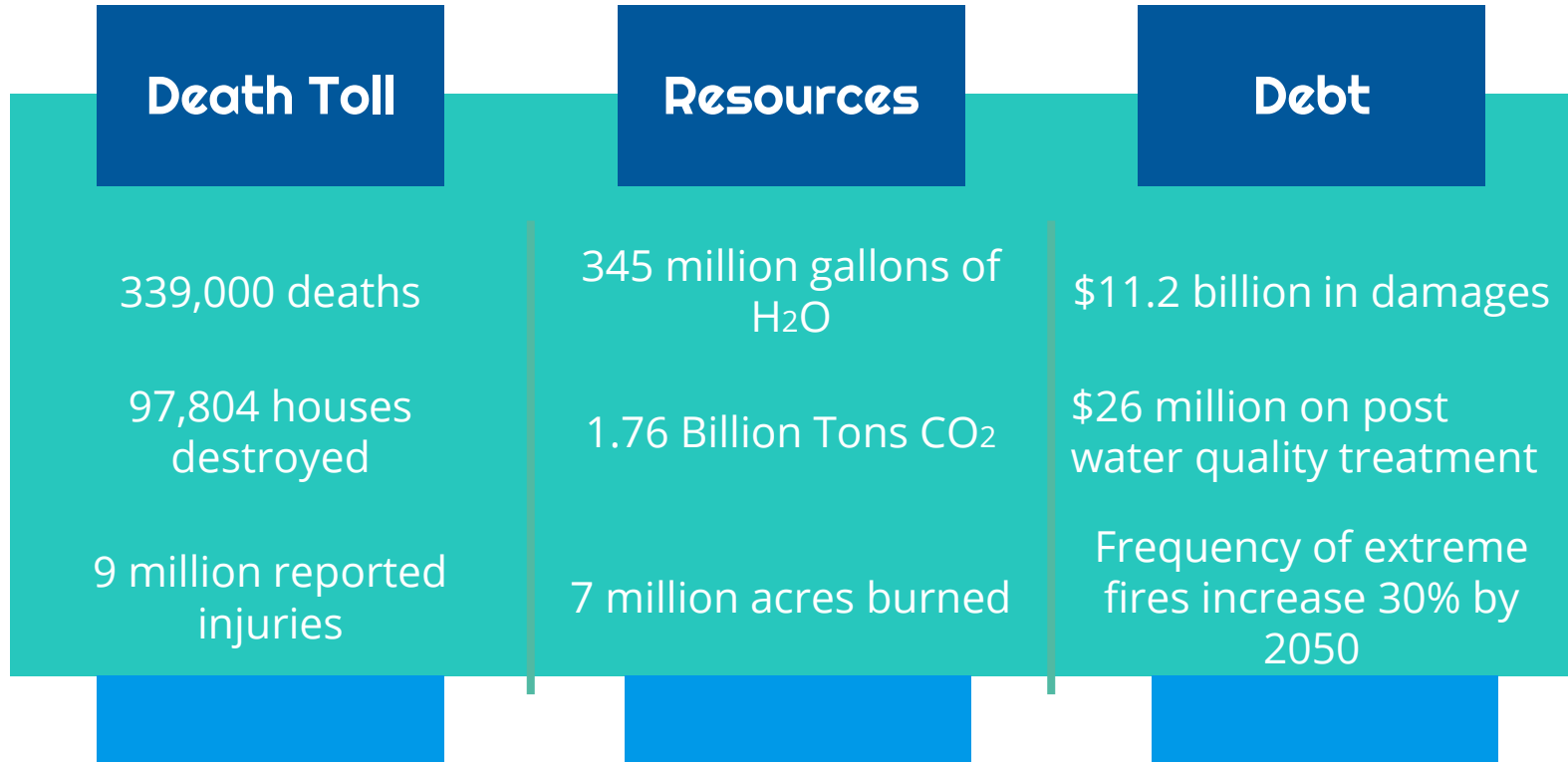
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Wildfire Effects, USA 2022





Solution

Strategic Approach

Research-backed approach to putting out fires through targeting leaves.
"Foliage Reduction"



Less Materials

Laser technology used in place of fire retardant.



Safety Risk

Ammonia based retardant can harm wildlife and has violated EPA and Endangered Species Acts.



Minimal Damage

Directly targets the wildfire unlike retardant which spreads through air exposure.



A forest after wildfire



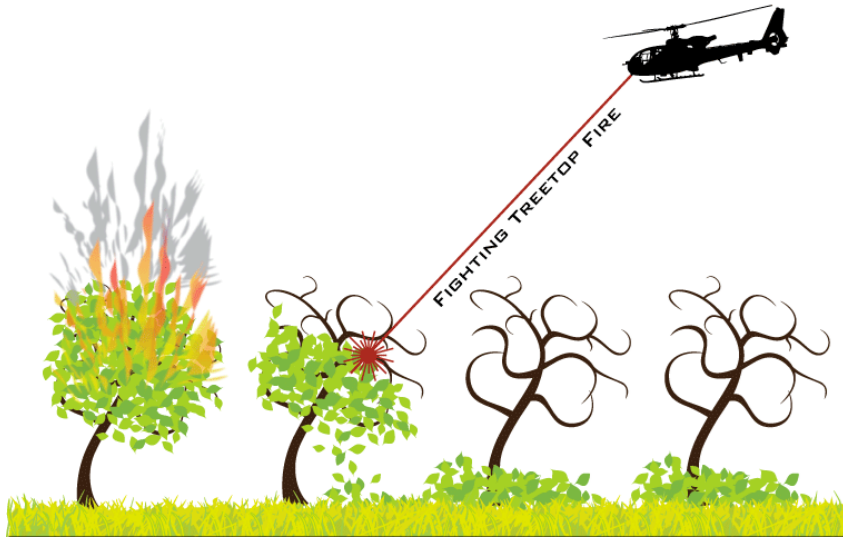
Solution

No Leaves = No Fire.





The Product



WHAT

AI, Laser based technology that strips off tree leaves to prevent advancing fires.



USE

FTF prevents the spread of large and small-scale forest fires. FTF is a reduction technique that should be used with traditional suppression methods.



HOW

FTF removes fine-fuel from the fire front in the canopy that stop the advancing treetop fire front. The leaves stack on the ground, increases humidity, and reduces oxygen flow that decreases the intensity of the fire-front.

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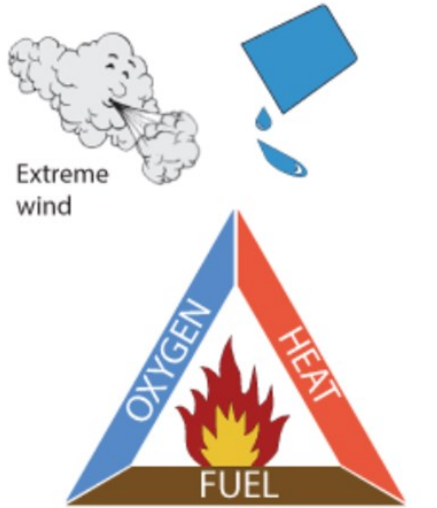
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Water Usage vs. FTF Laser



Strong winds blow away dumped water on the fire line that prevents suppressing Runaway Wildfires



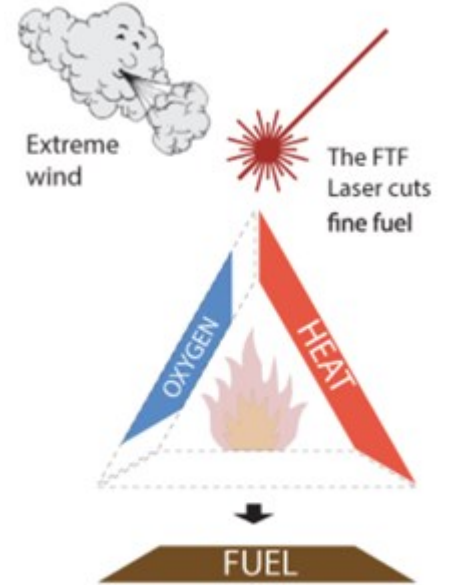
Water Use

- Not effective with extreme winds, as water, chemicals are blown a way
- Water deprives fire its fuel and reduces the heat
- Extreme temperatures may decompose the water. Increasing fires intensity



FTF Laser

- Works in strong winds
- Uses laser to cut down the leaves, which bypasses the problem of strong wind
- Cutting leaves off trees then tackles both the fuel element and on the ground reduces oxygen, in the fire triangle



FTF removes the fine fuel that stack on the ground reducing the oxygen flow that moderates fire intensity

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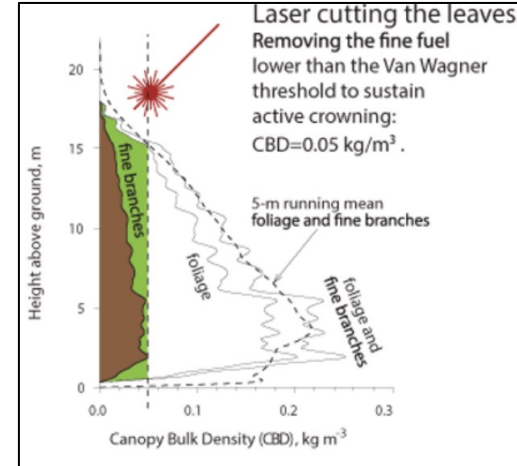
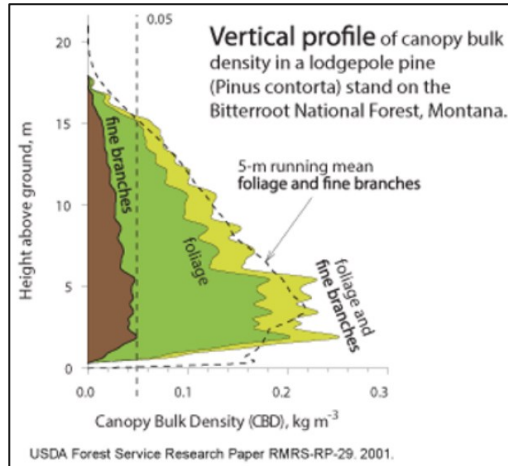
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Effectiveness of Laser Cutting



- By cutting leaves off trees, FTF system reduces Canopy Bulk Density (CBD)
 - CBD: significant factor controlling the sustainability of treetop fire
 - Van-Wagner Threshold: CBD limit under which the fire cannot sustain itself
- By reducing trees' CBD to below V-W Threshold, stops propagation of treetop fire



Results of Laser Cutting Crown Leaves



Number One

Green leaves are cut off the trees will stack on the ground, the place to where the fire will be confined. Both the water percentage contained in these leaves and the fact that they will stack will help in suppressing the fire on the surface level.



Number Two

Stacking the green leaves on top of the dry leaves that cover the ground leads to harder fuel ignition. The stacking itself reduces the oxygen supply significantly, reducing and slowing down the fire front.



Number Three

Having removed the fuel for the treetop fire, and reducing the oxygen for the ground fire, the FTF system will allow for an easy suppression of the remaining surface fire using traditional suppression techniques such as dropping water or chemicals on the fire directly.



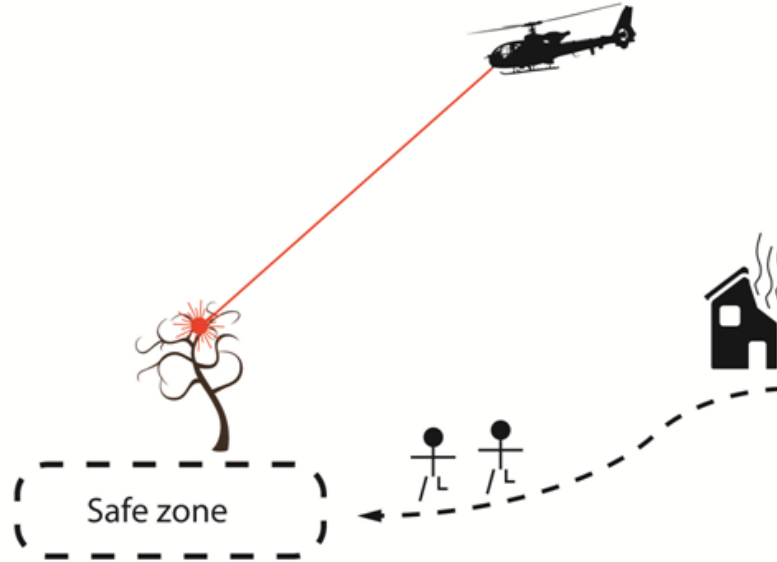
FTF Laser cutting crown leaves



Cut leaves stacked on the ground
=> Reduce oxygen flow
=> Moderate fire intensity

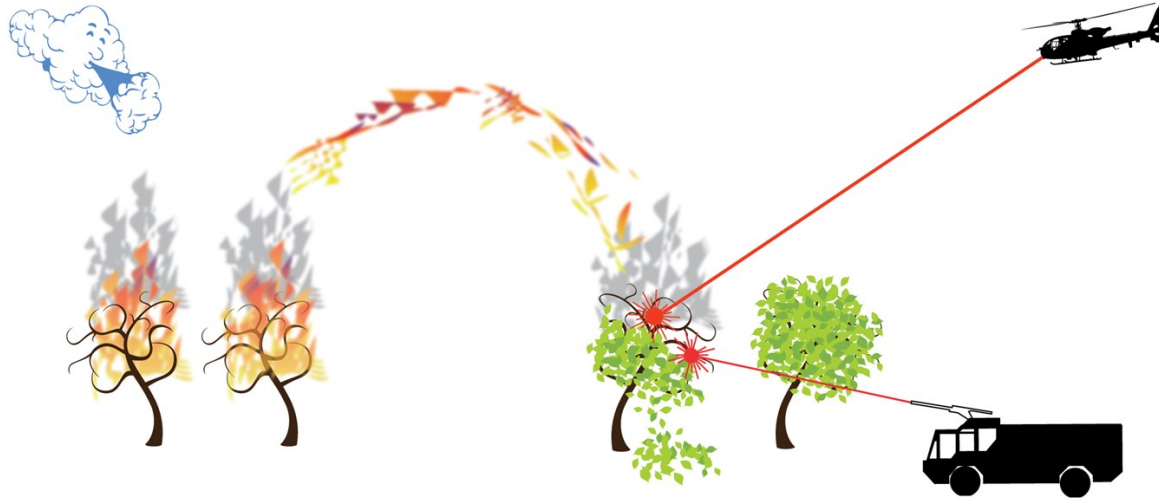


Laser cuts **safe zone** / escape route enabling the rescue of firefighters and residents.





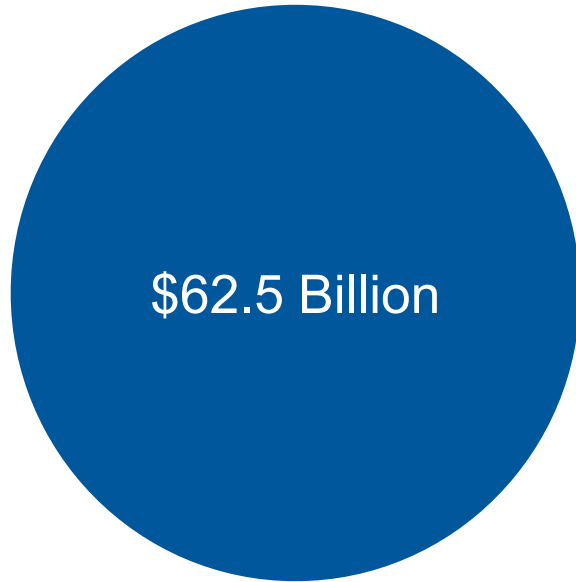
Stop Spotting brands ignition



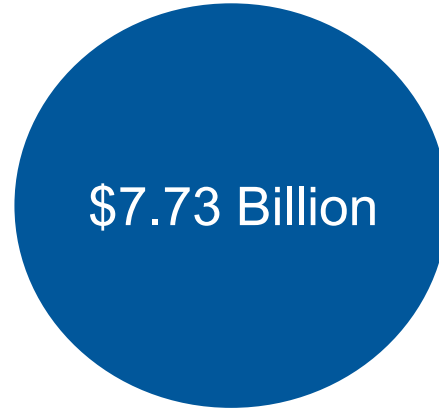


Wildfire Market Landscape 2022

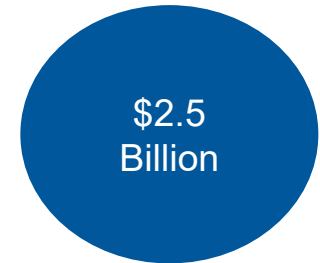
Market Size



US Average Annual Economic Loss



**Global Fire Fighting Market
Total Available Market**



**US Fire Suppression Spending
Available Market Share**



Business Model

Complete Sale

All Assets

Potential Buyers: defense contractors, utility companies, and PE firms

Licensing Agreement

License IP to a company

Deal Structure: Annual payments with royalties based on sale and leasing of device

Duration: Min. 10 years

Building Value

Conduct experiments to prove product's effectiveness

Attract investors before sale or licensing technology

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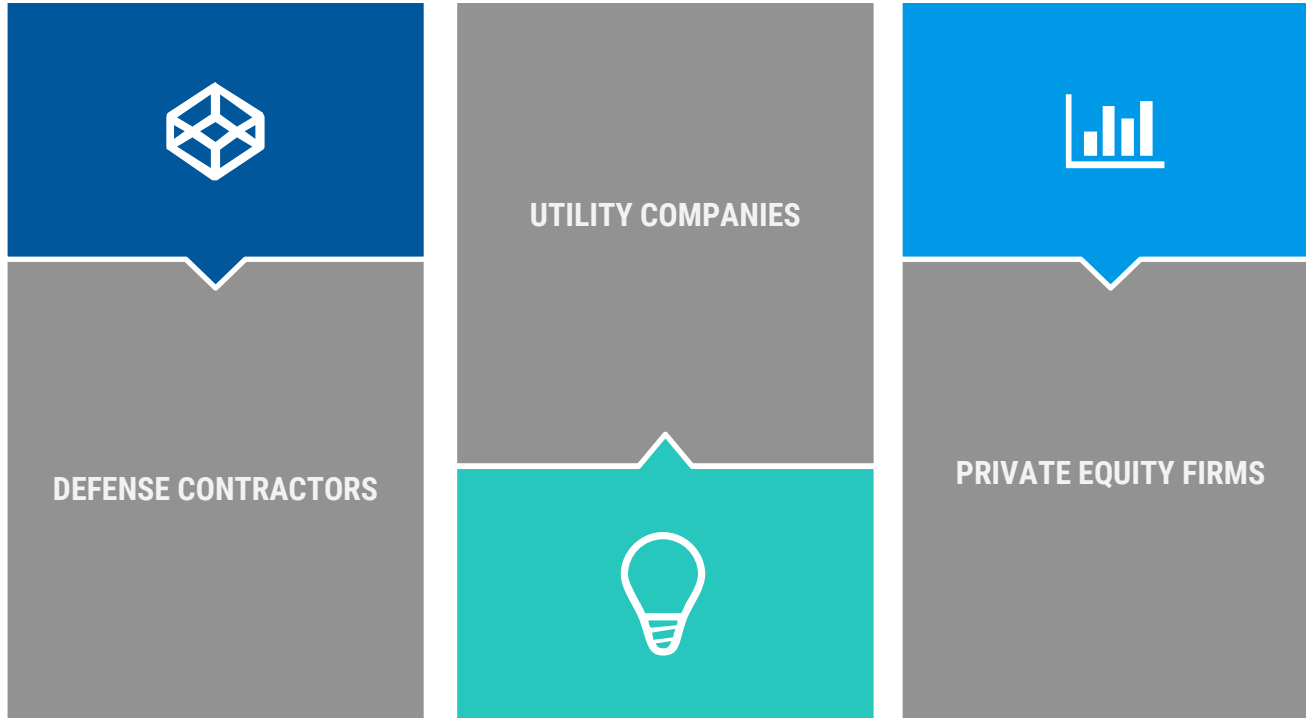
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Potential Buyers



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Next Steps

Increase Capital

Gain funding from investors, potential buyers and licensing agreements.

01

Build a Working Prototype

Use capital to create a functioning prototype.

02

03

Be Viewed as Hot, New Tech

Expand consumer base and exemplify a new form of breakthrough technology.

04

Gain Momentum

Demonstrate FTF's effectiveness and gain awareness.

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THANK YOU !

Any questions?

