APPLIED ENERGETICS

Directed Energy, Anywhere

SEPTEMBER 2025

Company Presentation

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ADDITIONAL INFORMATION

Applied Energetics, Inc.'s internet address is www.appliedenergetics.com The company makes available, free of charge, all SEC filings at www.appliedenergetics.com. Its annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8- K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, are available as soon as reasonably practicable after they are electronically filed or furnished to the SEC. You also may request a copy of each document at no cost, by writing or calling us at the following address or telephone number:

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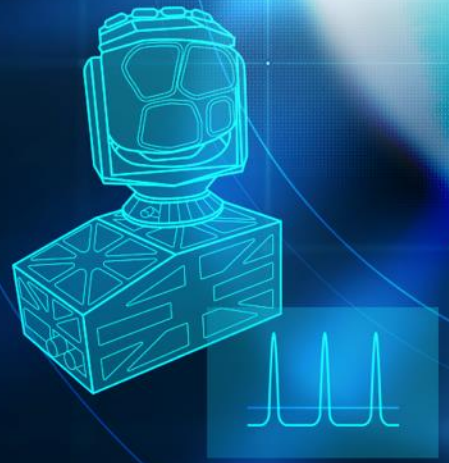
PROBLEM

Widely proliferating threats

Directed Energy, Anywhere

USPL SOLUTION

Optimal size, weight, and power



High value effects

LOCATION

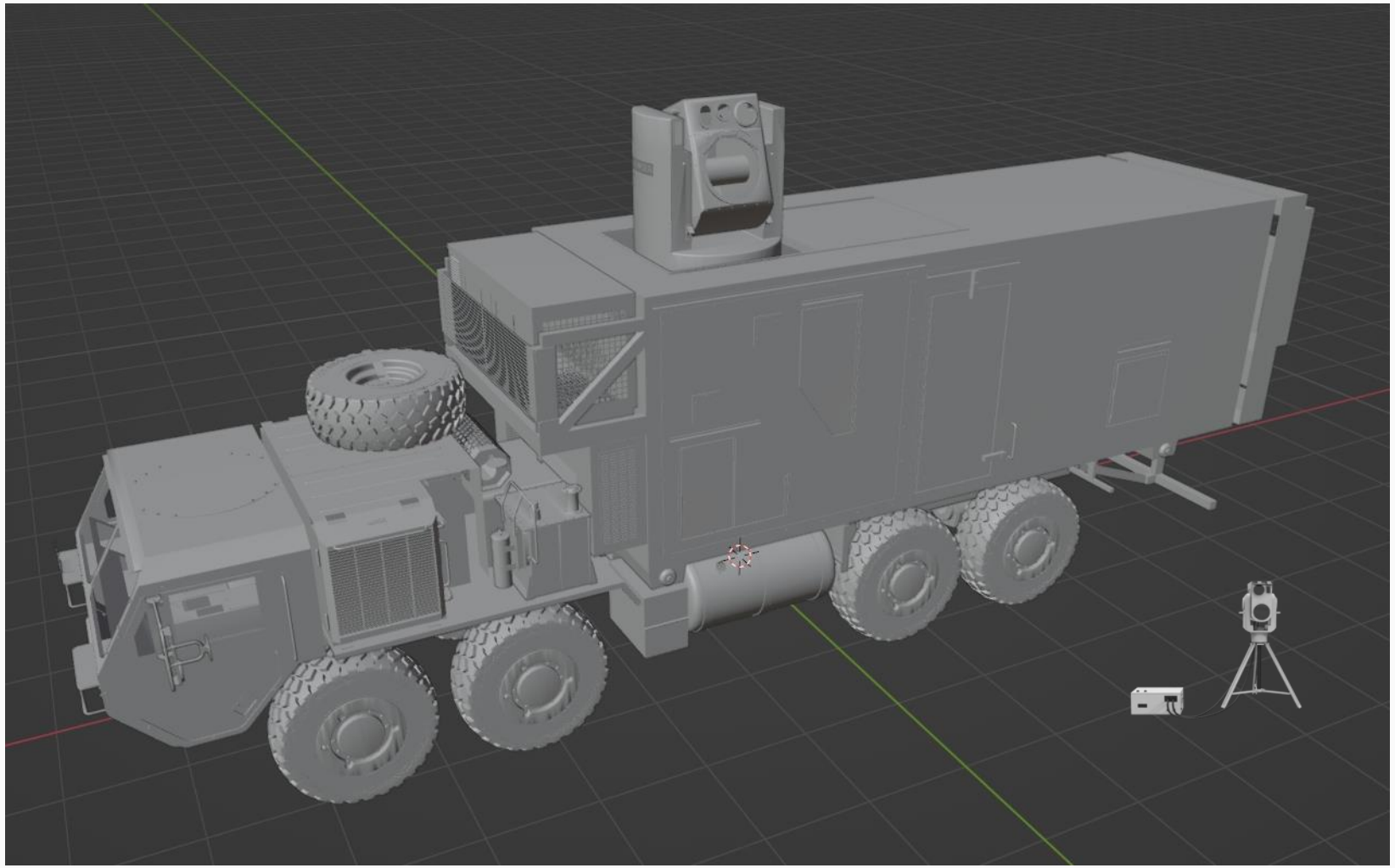
Mobile

Deployed

Fixed
(critical infrastructure)

ARMY HELMTT VS. AE USPL

AE's Pulsed Laser Air Defense system (PLAID) has a substantial size, weight and power advantage, enabling a distributed deployment of capability with sub-second engagement performance



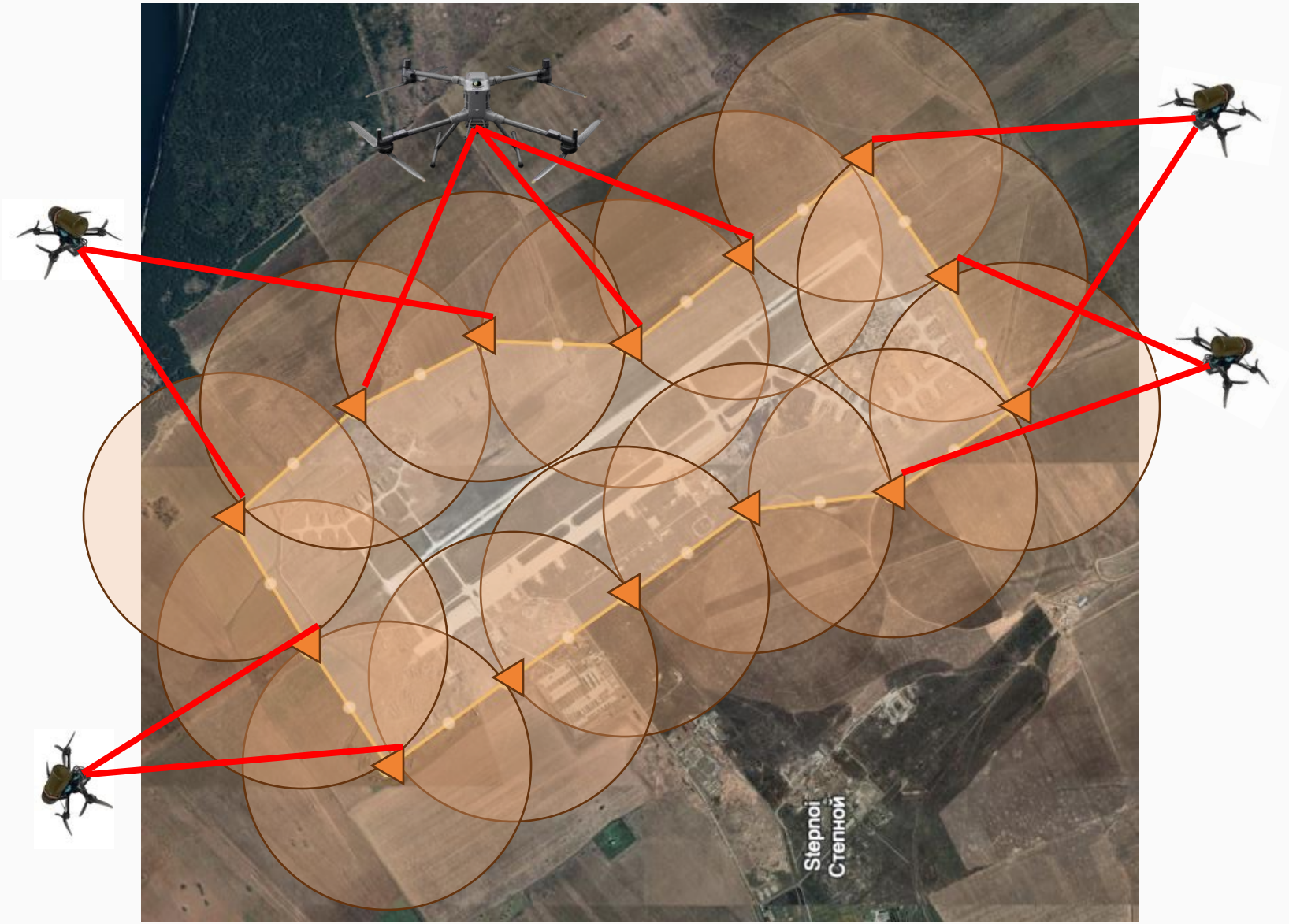
BELAYA AIR BASE, RUSSIA

- Belaya is a significant Russian Aerospace Forces Long-Range Aviation base in Usolsky District, Irkutsk Oblast, Russia
- The base's bomber fleet, consisting at various times of Tupolev Tu-16, Tupolev Tu-22, and Tupolev Tu-22M aircraft, played a considerable role in Asian strategy.
- On 1 June 2025, the Security Service of Ukraine (SBU) claimed to have damaged "more than 40" aircraft at Belaya and three other air bases (including Olenya) by using drones. The aircraft included an unspecified number of A-50, Tu-95 and Tu-22 M3 type aircraft. They released footage of the drones striking aircraft on the runway.

AE PLAID EMPLACEMENTS

- Belaya has a roughly 14 km perimeter
- 14 PLAID-L (low altitude) would be placed at 1 km spacing between units to ensure overlapping fields of fire

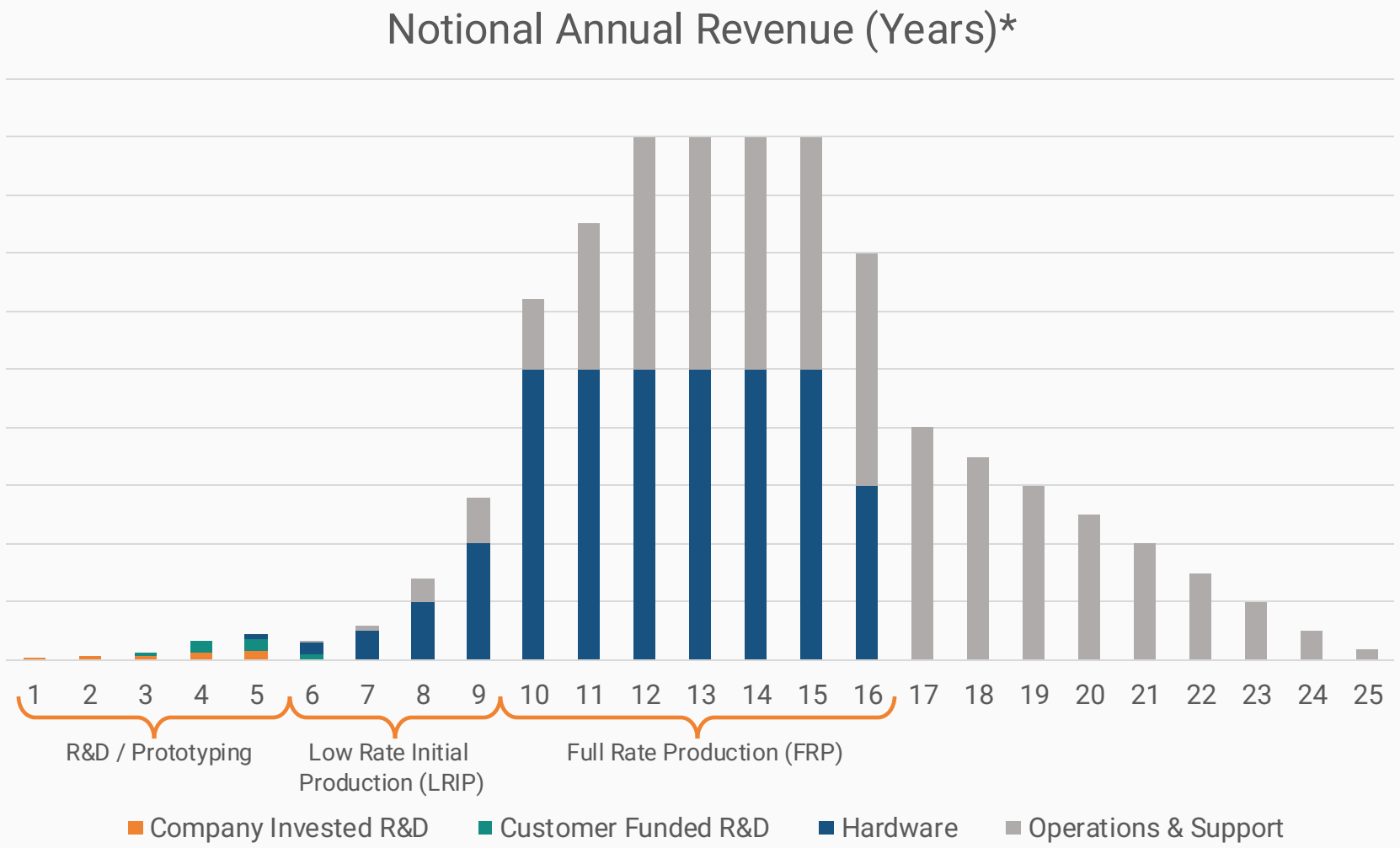
PLAID ENGAGEMENT AGAINST DRONES



- Overlapping fields of fire plus sub-second sensor kill allows for a robust engagement scenario where multiple PLAID systems can engage single drones to ensure mission kill.

DOD PROGRAM: NOTIONAL REVENUE PROFILE

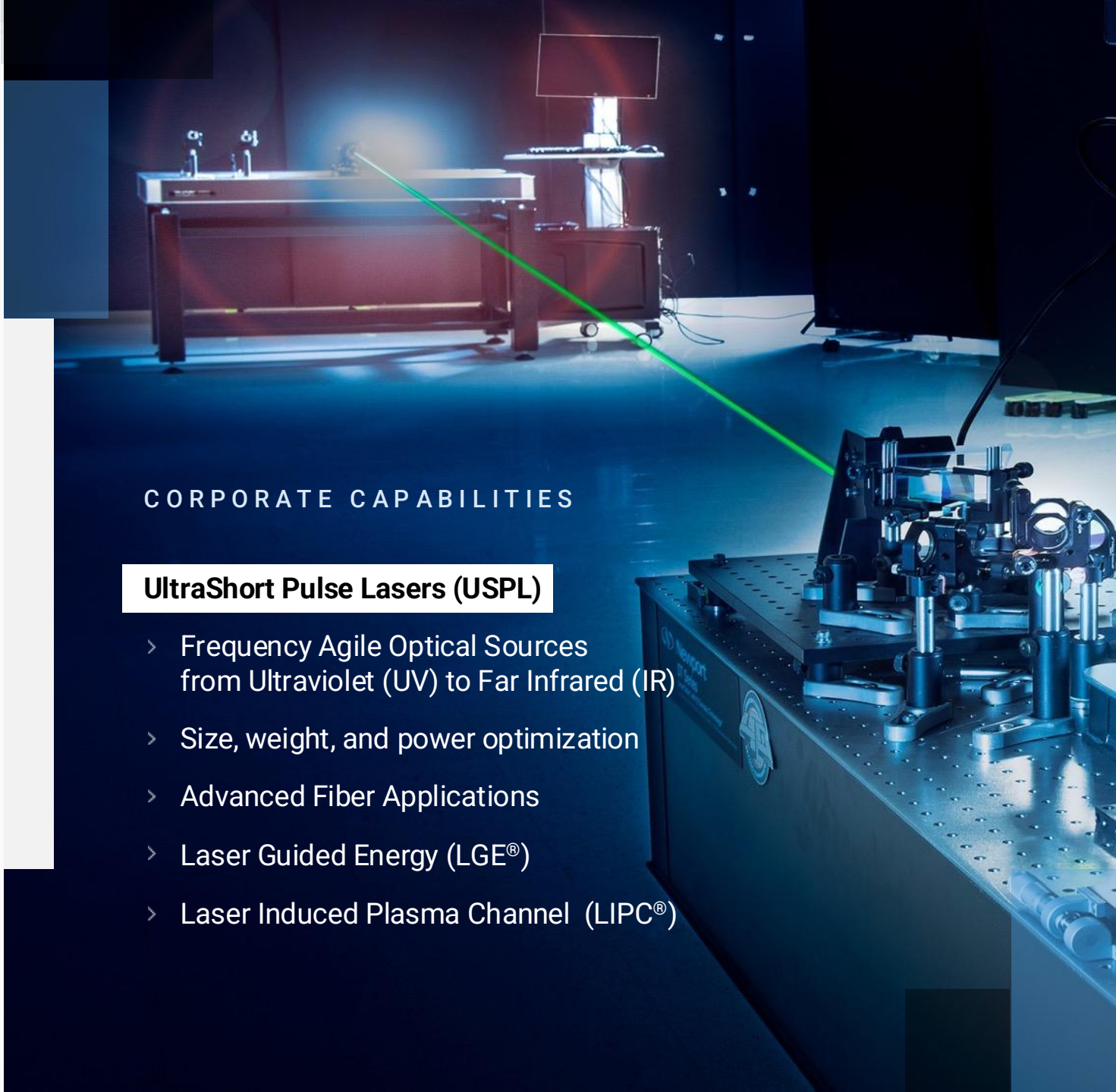
- Example program deploying counter-UAS to Defend Deployed and Permanent Facilities (2,000 units)



*This chart represents a possible forward-looking scenario to illustrate the typical life cycle of a product produced for and procured by one or more DoD customers and is not intended as a specific projection of future events. An actual product revenue profile could differ due to unforeseen variables.

MISSION

Innovating and shaping the future of directed energy technologies that defend our warfighters and critical infrastructure.



CORPORATE CAPABILITIES

UltraShort Pulse Lasers (USPL)

- Frequency Agile Optical Sources from Ultraviolet (UV) to Far Infrared (IR)
- Size, weight, and power optimization
- Advanced Fiber Applications
- Laser Guided Energy (LGE®)
- Laser Induced Plasma Channel (LIPC®)

WHY INVEST IN APPLIED ENERGETICS?

Emerging ISR threats ideally countered by Ultrashort Pulse Lasers

Unmanned semi-and fully-autonomous threats are dramatically increasing in number and capability. These threats are vulnerable to USPL effects with limited time required to defeat ISR sensors.

Unmatched IP portfolio

More than $50 million in public and private capital invested, 26 issued patents, 11 applications held under government secrecy orders, and 6 additional patents pending.

Defense applications open door to commercial markets

Defense applications open doors to commercial markets such as advanced manufacturing, pathogen detection and neutralization, and imaging of biological tissue.

High value directed energy effects at best size, weight, and power in market

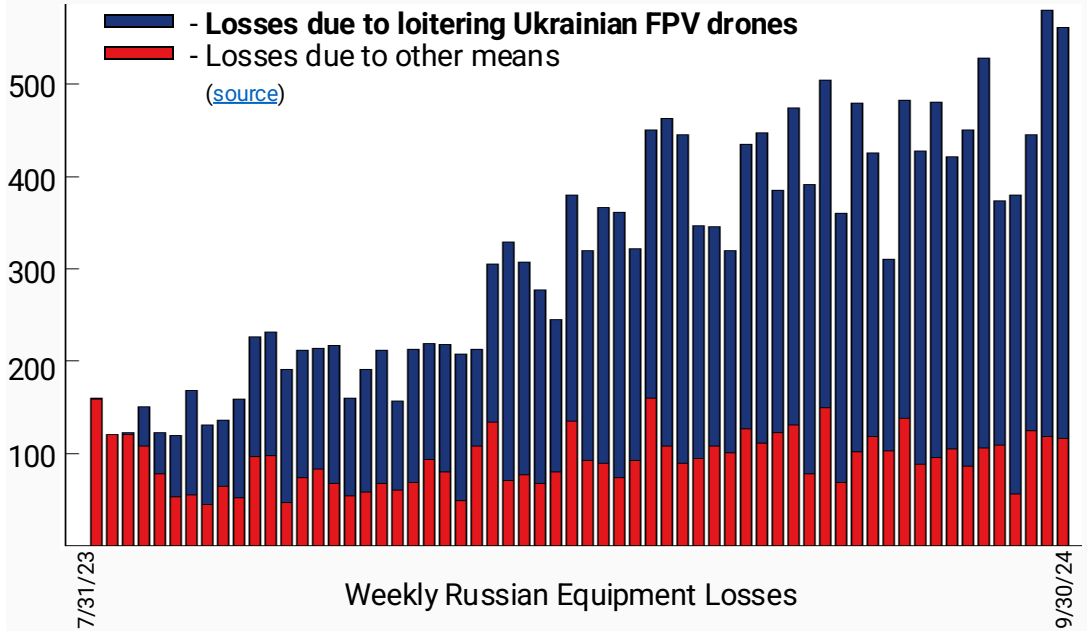
Only national-security focused USPL pure-play; USPLs deliver high-value counter-ISR effects in a SWaP footprint that allows deployment on almost any military platform.

Accelerating addressable market

Global directed energy weapons market expected to grow at 16% CAGR to $32.1 billion by 2033; Counter-Unmanned Aerial Systems (UAS) market expected to grow at 25% CAGR to $11.7 billion by 2032.

Elite management team; state of the art facilities

More than 100 years of combined executive team experience; 26,800 sq. ft. laser-dedicated development and manufacturing facility in the University of Arizona Tech Park.



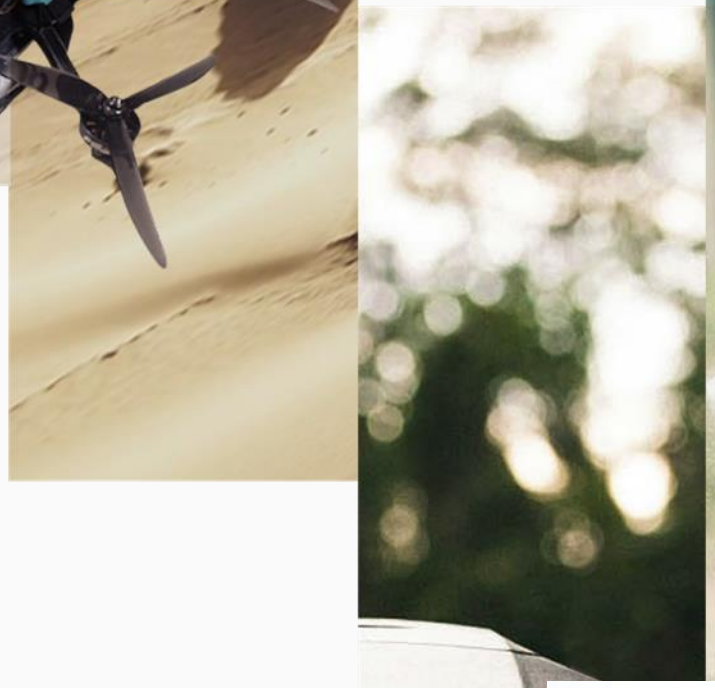
PROBLEM STATEMENT

Unmanned semi- and fully-autonomous aerial, ground, and surface vehicle threats are dramatically increasing in number and capability. As unmanned systems increasingly augment humans, sensors will saturate the battlefield.

"The United States defense establishment does not appear equipped, technically or psychologically, to respond to this looming [unmanned systems] threat. I must emphasize—in the starkest terms—**that the comparative advantage in modern weaponry has fundamentally and perhaps permanently shifted toward small, cheap, attritable, evolutionary systems.**"

Dr. Paul Schwennesen

Written testimony before the U.S. House of Representatives Subcommittee on Counterterrorism, Law Enforcement, and Intelligence, Dec 10, 2024 (source)

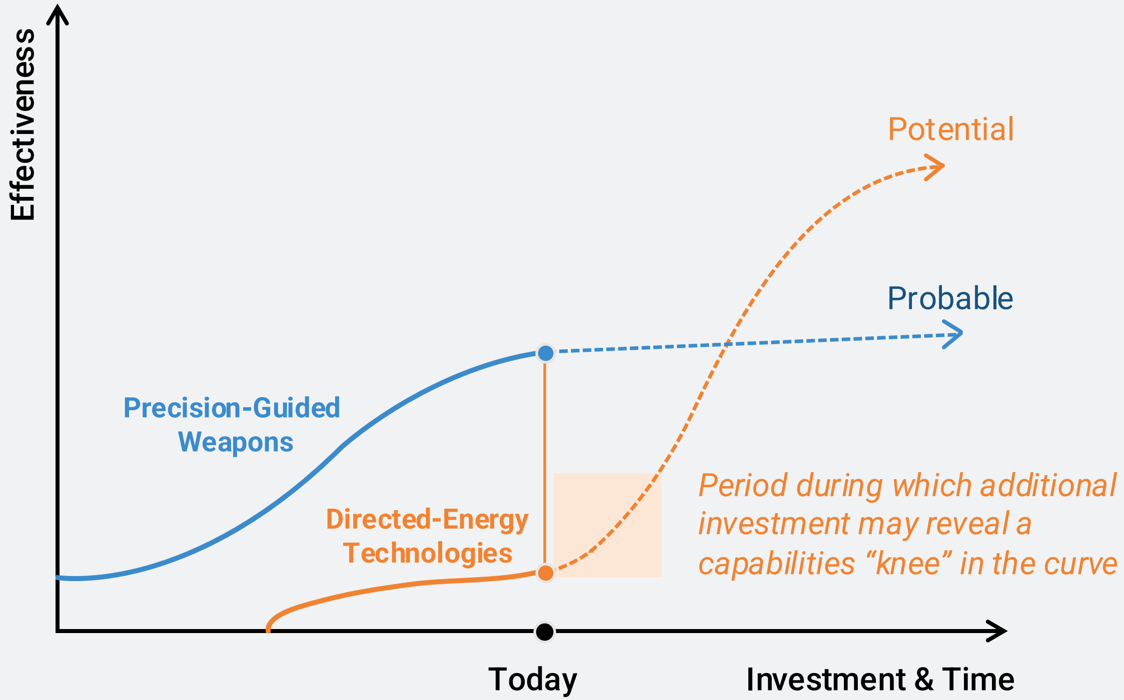


EMERGING THREATS IDEALLY SUITED FOR DIRECTED ENERGY EFFECTS

The proliferation of commercial-off-the-shelf sensors and unmanned systems are providing both traditional and asymmetric forces with **improved intelligence gathering and improvised threat capabilities enabling low-cost and low-tech solutions against high value targets.**

Most of these threats are piloted through cameras mounted on the vehicle.

A NOTIONAL MILITARY TECHNOLOGICAL "BREAKOUT"



DIRECTED ENERGY STILL IN EARLY STAGES OF DEVELOPMENT AND ADOPTION

What is needed to finally cause the inflection point in the adoption of directed energy?

- A widely proliferating threat uniquely suited to being countered by directed energy weapons
- A directed energy system that delivers both
  - High value effects against the threat
  - At a size, weight, and power that makes it widely deployable across multiple platform types and fixed sites.

AE is well positioned to be a catalyst to "bend" the adoption curve of directed energy

SOLUTION: ULTRASHORT PULSE LASERS

Objective: Defeat sensors of all kinds across a broad range of enemy threat platforms.

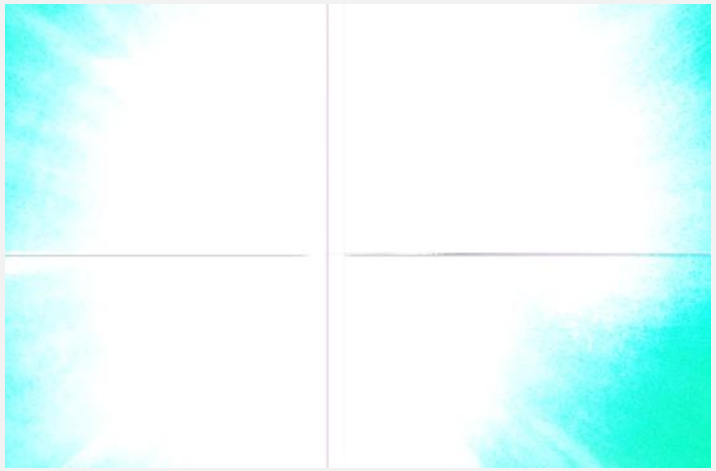
1. High peak power allows for sub-second sensor kills
2. Laser wavelength can be matched to sensor wavelength
3. Common underlying architecture across all counter-ISR applications
4. Efficient, compact, and ruggedized optical fiber-based architectures

ULTRASHORT PULSE LASER EFFECTS: COUNTER-ISR SENSORS

(Effect on common commercial sensor)

JAM

Temporarily blind the sensor

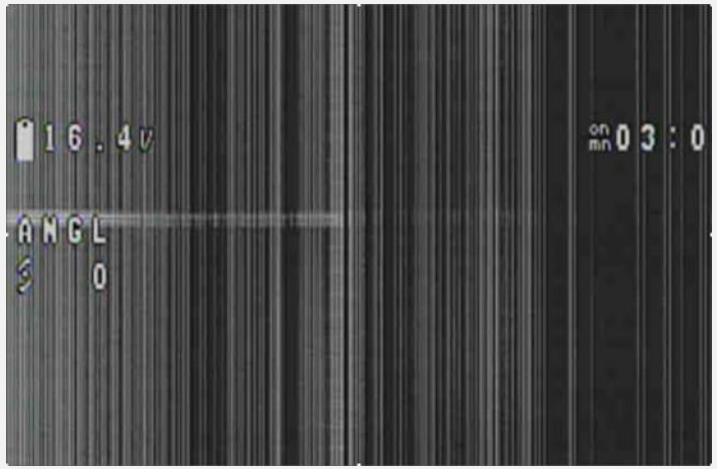


DAMAGE

Permanently damage pixels and control lines

DESTROY

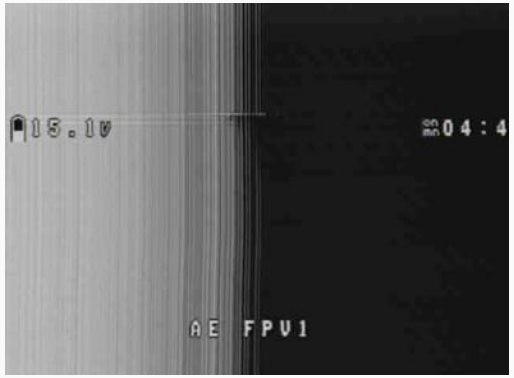
Sensor fails to operate



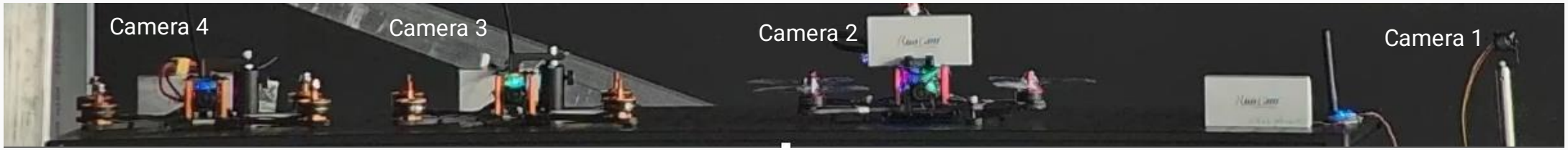
Increasing energy on target

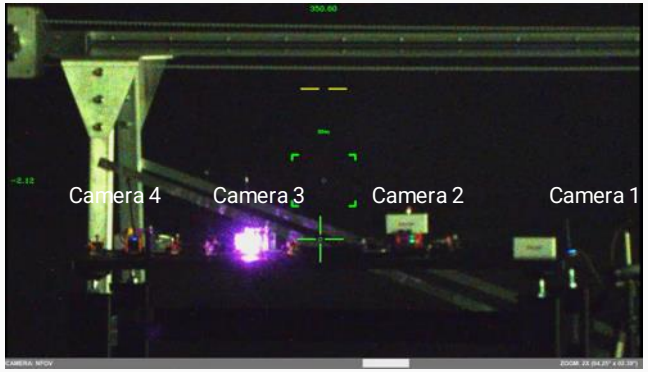
DEMONSTRATION: USPL AT 1 BILLION WATTS PEAK POWER

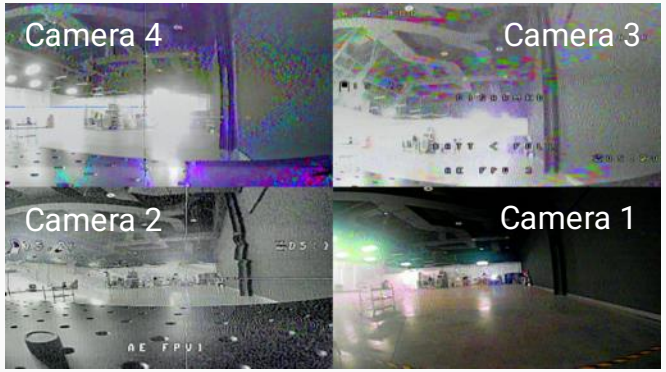
Single Drone: Arris X-Speed 250B FPV Racing Drone, RunCam Robin3 FPV Drone Camera, July 2025



Multi-Drone Shot: Three FPV Drones and a Surrogate FPV Drone Camera/Transmitter, August 2025







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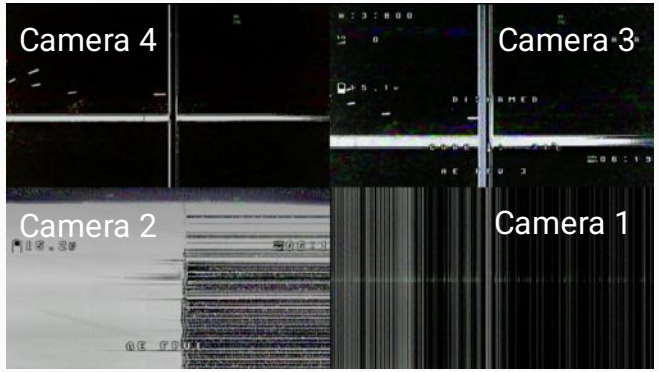


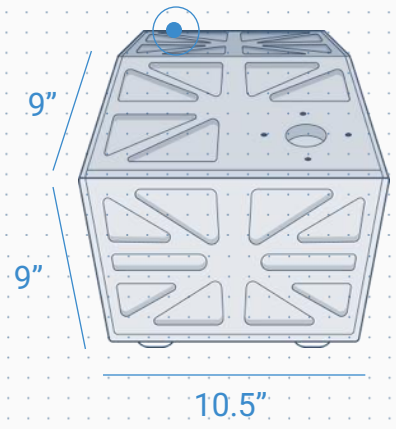
ULTRASHORT LASER SPECS

USPL offers **size**, **weight**, and **power** (SWaP) attributes that enable deployment on almost any platform

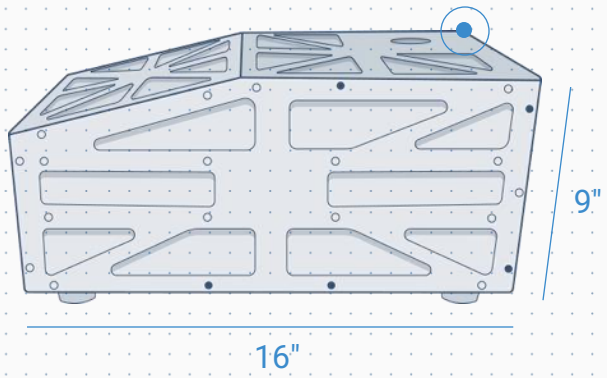
Lighter, smaller, more portable, and provides diversified lethality

SWaP-C reductions by multiple orders of magnitude

WALL POWER 1,000 W

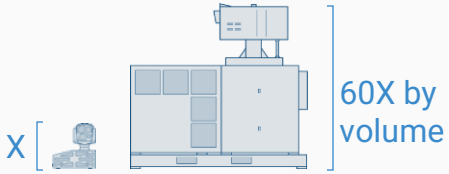


WEIGHT 58lbs (22.6796kg)



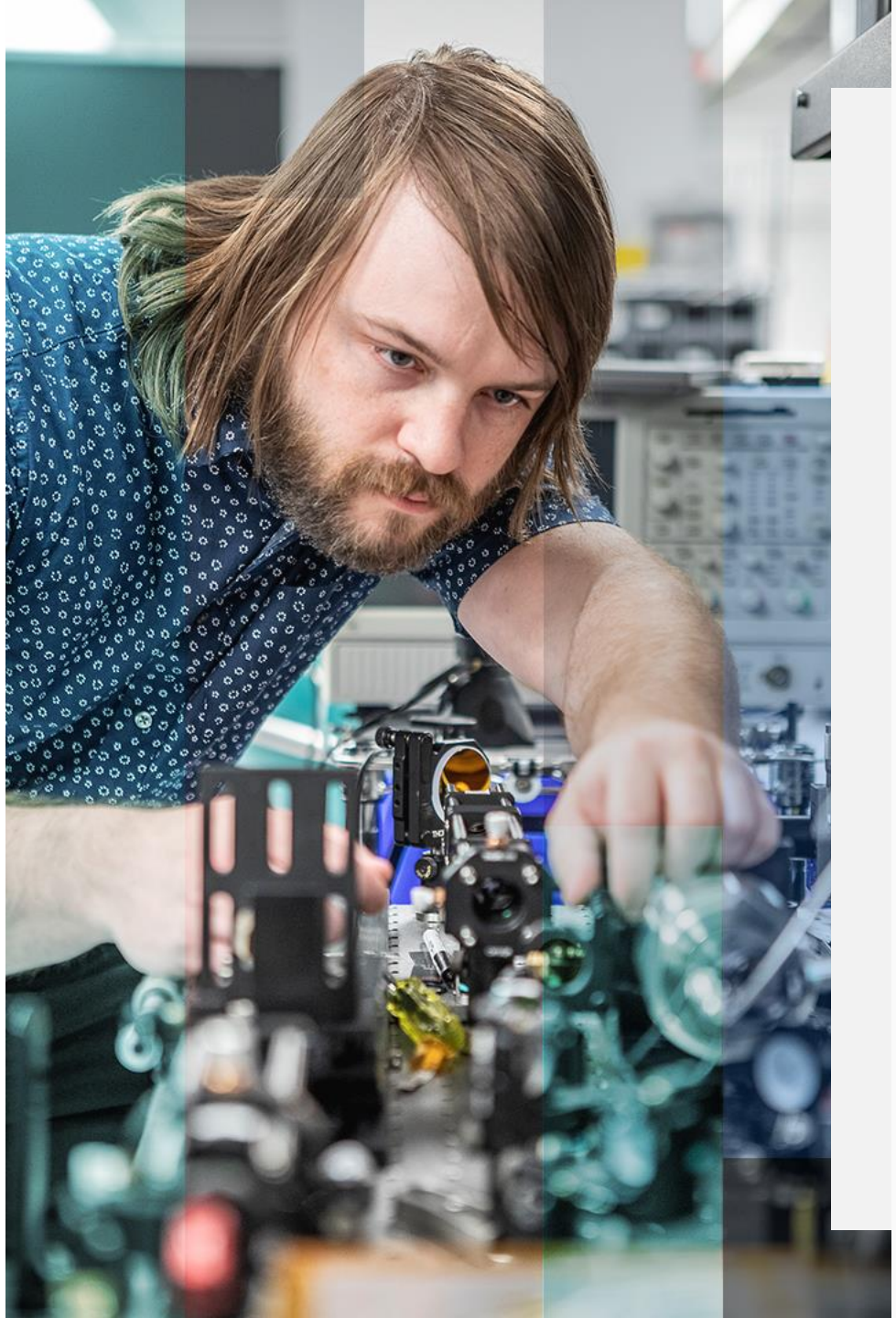
USPL OFFERS SIZE WEIGHT AND POWER ADVANTAGE

ULTRASHORT PULSE



ULTRASHORT PULSE		CONTINUOUS WAVE (CW)
On-the-move	MOTION	Stationary
Uninterrupted	BATTERY	Limited
Compact and modular	FOOTPRINT	Extensive footprint
Peak 10^{10} W	LASER POWER	Peak 20,000 W
~1 kW	POWER CONSUMED	~100 kW
~10s lbs.	WEIGHT	~1,000s lbs.

CONTINUOUS WAVE (CW)



A LEADER IN ULTRASHORT PULSE LASERS

We have built a substantial moat of IP, past performance, and current contracts that give AE a **leadership position in the market**

Strong IP portfolio

Over $50M of public and privately funded IP with a portfolio of 26 awarded patents, 11 applications held under government secrecy orders, and 6 additional patents pending.

Proven performance

Designed, delivered, demonstrated mobile USPL platform in the terawatt (TW) – class output for open air testing in multiple environments. 16-weeks from project start to DoD acceptance; modeling and target effects demonstrated.

Mission relevant contracts

Since mid-2022, AE has received three awards each addressing critical customer missions:

Marine Corps
Counter-ISR

Army
Infrared Countermeasures (IRCM)

Navy
Platform defense

OUR FACILITIES

Applied Energetics' corporate headquarters is in the **University of Arizona Tech Park**

4,830 sq ft.
Class 1000 cleanroom

Multiple integrated laser labs

26,800 sq ft. facility

- Secure server room with network capability
- Dedicated inventory, shipping and receiving areas
- ITAR, DCSA, and NIST compliant
- Shop assembly area (outside of cleanroom)
- New space for manufacturing and advanced laser/drone test range

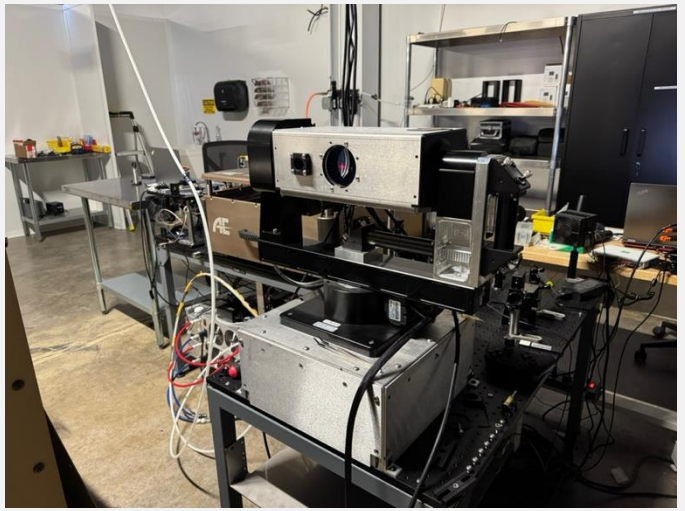
APPLIED ENERGETICS

CEO Update

YEAR-TO-DATE ACCOMPLISHMENTS

- Highest priority: On demand demonstrations in AE's Battle Lab
  - High-power laser for counter-drone fully operational and available for demonstrations
  - New class of LIDAR for drone detection demonstrated
  - Additional lasers at alternative wavelengths in construction
  - First successful multi-shot demonstration against four drones
- Increased Staffing: Added four new employees: Laser Technician, Mechanical Engineer, Optical Engineer, VP of Finance
- Accelerated Pulsed Laser Air Defense (PLAID™) prototype build
- Awarded 2 New Patents and trademark for PLAID
- Contract Activity:
  - As a result of DOGE, Navy contract funding ended
  - Kicked off new program with the University of Rochester Laboratory for Laser Energetics in July 2025

BATTLE LAB DEMONSTRATOR PROTOTYPES



END OF YEAR PRIORITIES

- Highest priority: Outdoor demonstration of counter-drone capability (Q4 2025)
  - Smaller form factor laser
  - Demonstration through early prototype AE-built beam director
  - Accelerate customer and strategic partner engagement
- Establish relationship with third party developer for production-ready beam director
  - Co-develop software necessary for drone optic targeting
- Complete build for multi-wavelength prototype laser for effects testing against more sophisticated sensors
- Continue integration with Kord Firefly, moving from low-power laser to higher-power
- Initiate and establish productization efforts
  - Hire Chief Product Officer
  - Develop plan for system integration facility as part of the Battle Lab

OUR PROGRESS

CURRENT APPLICATIONS

FUTURE APPLICATIONS AND INNOVATION

NATIONAL SECURITY DOMAIN

- U.S.M.C — C-ISR
- U.S. Army — IRCM
- U.S. Navy
- Rochester — LLE

- Advanced applications
- Laser guided energy

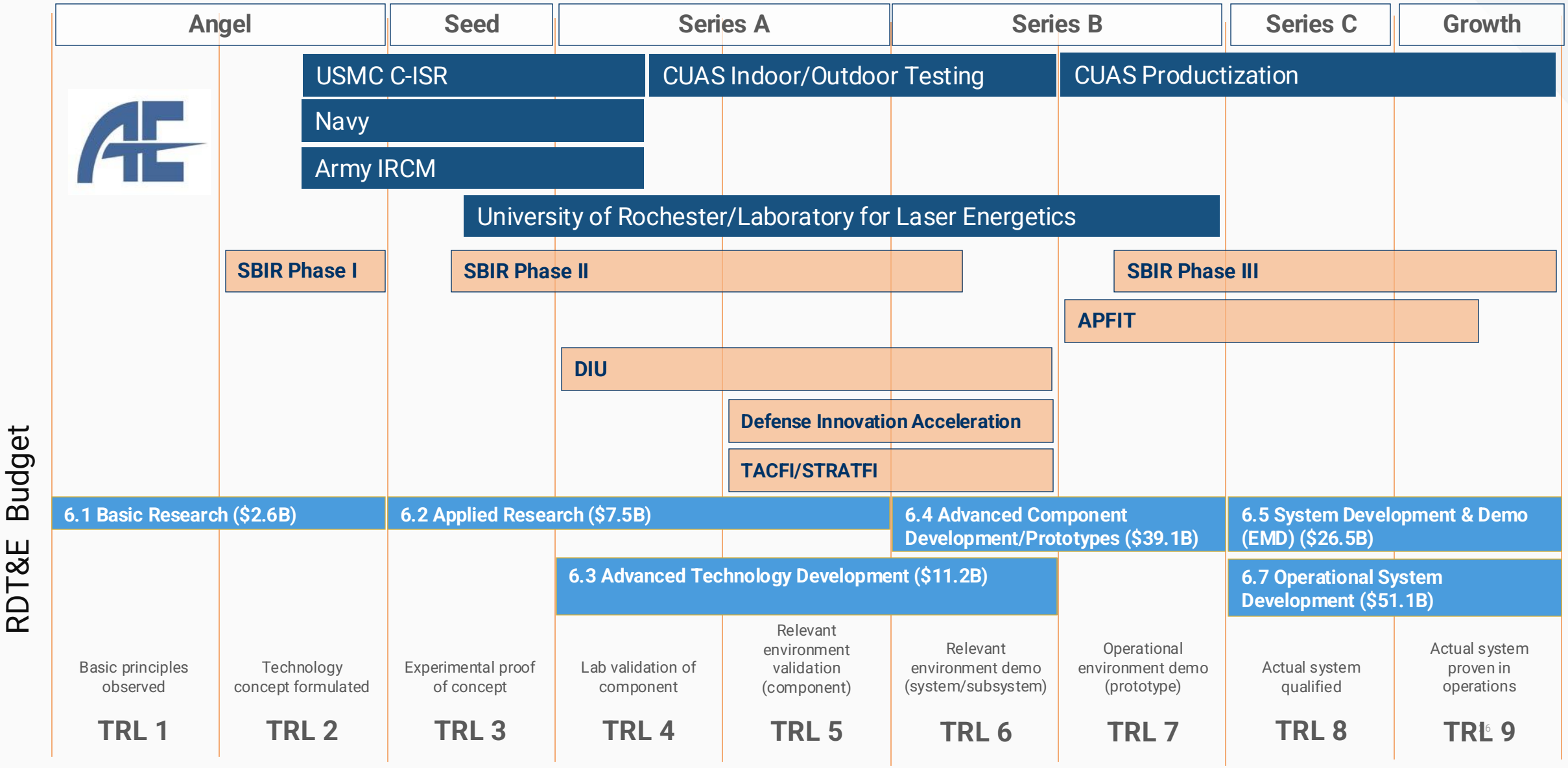
Core laser technology

Enabling technology and components

COMMERCIAL DOMAIN

- Biomedical research and scientific
- Advanced manufacturing

OUR PROGRESS AND WHERE WE'RE GOING



LARGE ADDRESSABLE MARKETS

NATIONAL SECURITY DOMAIN

Directed energy weapons. *Source*

$32.1B
By 2033
15.7% CAGR

Counter UAS *Source*

$11.7B
By 2032
24.7% CAGR

Directed infrared counter measures *Source*

$10B
Over next
10 years

COMMERCIAL DOMAIN

Commercial ultrashort pulse laser *Source*

$5.2B
By 2030
15.0% CAGR

Additive manufacturing *Source*

$95.6B
By 2032
20.4% CAGR

Medical laser market *Source*

$19.9B
By 2032
14.5% CAGR

GOLDEN DOME FOR AMERICA OPPORTUNITY

A successful Golden Dome for America implementation requires an entire pillar of capability specifically built to “take out the eyes” of the things that stare at you. **USPLs are ideally suited to achieve this**

Why Ultrashort Pulse Lasers?

- **Unique Effects:** USPLs deliver high-peak power, enabling disruption of EO sensors through plasma formation or ablation with minimal collateral effects.
- **Compact and Scalable:** Fiber-based USPL technologies support low SWaP footprints and deployment on land-based mobile, high- to very high-altitude platforms.
- **Wavelength Agility:** Effective across visible to LWIR bands enhancing sensor denial capability.
- **Low Thermal Signature:** Unlike CW or long-pulse lasers, USPLs maintain a low thermal footprint
- **Speed-of-Light Engagement:** Instantaneous targeting of fast-moving threats with sub-second dwell times required to neutralize the target.
- **Difficult to Counter:** Extremely short pulse durations and tunable wavelengths challenge traditional filtering and hardening strategies.

WHY INVEST IN APPLIED ENERGETICS?

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Accelerating addressable market

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Elite management team; state of the art facilities

More than 100 years of combined executive team experience; 21,300 sq. ft. laser-dedicated development and manufacturing facility in the University of Arizona Tech Park.

APPLIED ENERGETICS

Thank you