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Additional Information

Applied Energetics, Inc.’s internet address is www.aergs.com. The company makes available, free of charge, all SEC filings at www.aergs.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:

Applied Energetics, Inc.
2480 W Ruthrauff Road, Suite 140Q Tucson, AZ 85705 Office 520.628.7415
Attention: Financial Manager Website: aergs.com
Applied Energetics Develops…

... innovative directed energy solutions, ultra-short pulse lasers, and related technologies for the national security, medical technology, and advanced manufacturing markets

CORPORATE CAPABILITIES

- Ultra-Short Pulse Lasers (USP)
- Laser Guided Energy (LGE™)
- Laser Induced Plasma Channel (LIPC™)
- Frequency Agile Optical Sources (UV to Far IR)
- Advanced Fiber Applications
- Counter Improvised Threats
• Directed Energy pure play in Ultra-Short Pulse (USP) and Laser Guided Energy (LGE™) technologies for defense applications

• Elite Management team assembled Q2 2019

• Strong IP Portfolio: Over $50M of public and privately funded IP with portfolio of 26 patents and 11 applications held under government secrecy orders

• Well positioned in a shifting global military threat of power and electronic warfare

• Active Partner with three of the leading universities in Optical Source Technologies

• Executed contract award March 2020 with U.S Army for Stand-off Electronic Denial; completed Phase I ontract June 2020; invited by Army to submit Phase II; submission completed August 2020

Goal: To be the industry leader in USP and LGE IP development and leverage our IP portfolio with leading defense systems integrators
DOD Priorities for 2020

- Hypersonics
- Artificial Intelligence
- Directed Energy

"We are looking forward to beginning a number of important modernization programs in areas such as hypersonic weapons, artificial intelligence and directed energy that have been held back because of the [continuing resolution]," he said.

Mark Esper, Secretary of Defense
DOD News, December 20, 2019
"China has the political will and fiscal strength to sustain a steady increase in defense spending during the next decade," the DOD explained in its 2019 report on China's military might. (1)

“Russia and China are all investing heavily in hypersonic technologies. Military chiefs are warning that the U.S. could be left behind by its authoritarian adversaries, at least when it comes to nuclear-capable hypersonics.” (2)
The Threat is Real – The Risk is Significant

“A list of the world's top 100 defense firms published by Defense News (2019) revealed that 6 of the top 15 companies are Chinese. Last year, there wasn't a single Chinese company among the top 100.” (3)
# Next Generation of Optical Directed Energy: CW vs USP

<table>
<thead>
<tr>
<th>Continuous Wave (CW)</th>
<th>Ultra-Short Pulse (USP)</th>
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</thead>
<tbody>
<tr>
<td><strong>Background &amp; Capabilities</strong></td>
<td><strong>Next Generation of DOD Laser DE</strong></td>
</tr>
<tr>
<td>JTO-HEL programs started 2000</td>
<td>Peak Power 1 TW + (= 1 Billion kW)</td>
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<tr>
<td>Power output ~ 60-100kW</td>
<td>Disrupts the Sensors of any size target or sends instant amount of TW on target</td>
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<tr>
<td>Heats the Target: Drones, Mortars, Small Munitions</td>
<td>Billionth of second on target with multiple strikes</td>
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<tr>
<td>Dwells for Seconds on Target</td>
<td></td>
</tr>
<tr>
<td><strong>Short Comings &amp; Differences</strong></td>
<td><strong>Instant impact on Target, Generates RF and Optical Damaging Effects</strong></td>
</tr>
<tr>
<td>Heats the Target over time (Many Seconds)</td>
<td>Precise Beam and Optical Filaments over longer distances</td>
</tr>
<tr>
<td>Requires ↑ Input Power to Scale Output ↑</td>
<td>USP Derivatives are Tunable to Distance and Lethality</td>
</tr>
<tr>
<td>Requires More Fibers/Crystals to Scale</td>
<td>Much Lower Platform Req’s for SWaP, Cooling (1/100 to 1/1000 less than CW)</td>
</tr>
<tr>
<td>Beam Diverges with Distance</td>
<td>Potential for Battery Power to achieve more impact/scale</td>
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<tr>
<td>Much Higher Platform specs for SWaP, Cooling</td>
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<tr>
<td><strong>Marketspace</strong></td>
<td><strong>Applied Energetics, other players focused mostly commercial and medical</strong></td>
</tr>
<tr>
<td>Raytheon, Lockheed, Northrup, GA, Boeing and nLight/Nutronics</td>
<td>AE executed it’s first USP contract directly from Army, March 2020</td>
</tr>
<tr>
<td>&gt; $700 million in Contracts Awarded 2017-2019</td>
<td></td>
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</tbody>
</table>
Ultra-Short Pulse Lasers Address New & Emerging Threats - CW Lasers Cannot

Continuous Wave Lasers (CW)
- Constant power output equals peak power (100s of kW)
- Purely thermal effects on target, heat kill.
- Long-range engagements, long dwell time required
- Primary uses against rockets, artillery, and mortar (RAM)

Ultra-Short Pulse Lasers (USP)
- Ionizes air / vaporizes all materials
- 1 TW ~ Peak electrical power output of the U.S. grid
- Produces non-thermal effects
- Primary uses against imagers and sensors

Extremely High Peak Power is the Key

Compress in Time

1 Second x 1 Watt = 1 Joule of Energy

Same 1 Joule of Energy

1 TWatt = 1,000 Billion Watts
1 ps = 1/1000 Billionth second

1 Watt

1 second

1 Watt

1 TWatt

1 ps

1 Joule of Energy

Power

Time

Power

Time

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The Threat is Real – The Risk is Significant

AE Counter-Threat Capabilities
- Laser Guided Energy
- USP Laser
- High Voltage
Directed energy solutions using high peak power, frequency agile sources have a large application space that can provide real-time scalable, layered defenses. This includes tunable target effects and ranged engagement that can be electronically controlled via remote locations.
Applied Energetics Directed Energy Capability

High Voltage

- Perimeter Defense
- Vehicle stopping – electrified rumble strips
- Choke Points

USP Lasers

- Counter sensors and electronics
- Interior building security
- Variable intensity
- Pulse technology

Laser Guided Energy

Vehicle Stopping and Counter VB-IED

- Broad range of counter sensor/electronic effects
- Non-lethal to lethal effects
- Anti-IED/VBIEDs
- Vehicle stopping

Infrastructure Control Points

- Vehicle stopping and Counter VB-IED

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We Invent, Own, and Co-Develop Dual-Use Short Pulse Laser Capabilities

Industry Partnership
Developing the right industry partners is critical to accelerating our technology.

Research
At our core, AE invents new technology.

Patents & IP

Co-Development
The final stages of our development are to leverage our intellectual property into licensing and co-development agreements.

Emerging Dual Use
At the heart of our strategy is the ability to develop technology with dual-use capabilities.

Teaming Arrangements & Contracts
Licensing Agreements
LRIP Build Orders
Adv. Manufacturing
Medical Applications
Licensing Agreements
Patents & IP
Research
Industry Partnership

Planned Revenue Model

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From the Lab to Deployment – Technology Path to a Program of Record

**Consideration of use of SBIR-developed technologies can occur throughout the acquisition lifecycle**

**TRL** – Technology Readiness Level

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Current Programs and Partnerships

- December 2019 awarded contract with U.S Army for Stand-off Electronic Denial, A19-T007
  - **RFP objective:** Develop a directed energy system capable of disrupting, disabling or destroying the electronics on a remote target within milliseconds of detection
  - Program seeks to eliminate threats through the disruption of a target’s electronics control systems by directing enormous amounts of power onto it as quickly as possible. The solution may be scaled to neutralize targets more than 1km away
  - Phase I - $165 K (3 months) contract executed March 2020
    - Completed Phase I June 2020
  - Phase II opportunity - $1.10M (18 months)
    - Invited to submit a Phase II; completed August 2020
- Partnered with 3 of the leading universities in Optical/Laser Technologies: Univ. of AZ, Univ. of Central FL and Univ. of Rochester
- Multiple proposals submitted over the past 12 months (from UV to Far IR)
  - Multitude of federal agencies; not all are defense-related
Ultra-Short Pulse Lasers Provide Unique Capabilities That Enable a Very Broad Range of Applications
Dr. Greg Quarles - CEO

- Over 25 years of executive experience in lasers and defense
- Established strategic priorities leading to award of multiple programs of record
- Recognized expert by Congress and senior leaders at the Pentagon
- Leading innovator of dual-use optical technologies globally
- Unique executive combining proven business, science and policy skillsets

Dr. Stephen McCahon – Chief Scientist

- Over 30 years experience as a scientific researcher, technology developer, and entrepreneur
- Lead developer of the AE proprietary breakthrough technology Laser Guided Energy
- Industry recognized leader in the development of advanced optical materials, photonic devices, Ultra Short Pulse Laser sources and their applications.
- Co-authored more than 50 scientific publications and more than 30 patents issued and/or pending
Directors & Advisors

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Gregory J. Quarles, Ph.D. – Director, CEO
Jonathan R. Barcklow – Director, Vice President & Corporate Secretary
John E. Schultz Jr. – Director

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Christopher W. Donaghey – Advisor
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