Adaptive Global Solutions, LLC

Adaptive Global Solutions, LLC (“AGS”) is a technology and development company, dedicated to examining and developing solutions to social problems of importance, to improve the quality of life by those affected by such social concerns, and to make a difference, for the better. By viewing long-term persistent challenges, looking at current methods and technologies, then through the lens of what could be achieved effectively by adapting technology to meet that need, AGS collaborates with private, academic and industrial partners to make it a reality: from Concept, to R&D, Development to Proof of Concept, then to full-scale production. We are the concern that adapts prior, existing and tomorrow’s technologies, to overcome a number of today’s issues.

AGS' primary focus at this time is to develop the heat resistant Fire Extinguishing Device and System ("F.E.D.S.") Drone, to deliver non-incendiary methods of fire extinguishment, with the capacity to move flames from their fuel source. Moving a flame off its fuel source and disturbing the energy flow of a fire are proven technologies in fire extinguishment. What has not been accomplished previous is to aerialize such in a stable, reusable platform. The F.E.D.S. Drone platform integrates proven technology in blast wave into a non-destructive, repeated usage and operational aerialized platform; soundwave, and high compression air fire extinguishment as a continuous operational aerialized platform. The structural platform provides heat shielding up to or greater than 2,500^{o}F for several hours continuously, with an airframe designed to withstand the punishing atmosphere that a wildland fire will produce. Given the fact that fixed wing and rotary wing structures will not allow an aircraft or other UAVs to operate efficiently and continuously below tree top level or within an industrial, commercial, high-rise and other fire situations, retracting the wing structure into the fuselage requires a different propulsion mechanism. To do so the F.E.D.S. Drone platform the latter is achieved by an adaptive propulsion mechanism, where the primary source of energy co-generation is derived from the fire environment itself. The F.E.D.S. Drone platform is adaptable to factory/commercial, high-rise, transportation tunnel, wind turbine nacelle and other fire situations, as well as for non-fire related areas.

AGS filed a provisional patent application with the USPTO the Fire Extinguishing Device and System December 14, 2017, and will file 3 – 5 PCTs in 2018.

Risk mitigation:

Investment:

1. For and from an investor perspective, as cited by Steven Atmur, Director, New Business, COI Ceramics, Inc., the Project is not an invention problem (or challenge) but an integration problem: making the integration work.;
2. We are using known, proven technology. (e.g., heat shielding, blast and sound waves to extinguish fires, LIDAR, collision avoidance, heat transfer, thermoelectric power/electrical power generation, [piezoelectric [electrical power] generation, IR detection and radiometry, AI, drone swarming, etc.);

Fire Extinguishing methods:

1. The F.E.D.S. Drone employs a non-incendiary method to create the blast wave/shock wave or soundwave employed as the method to extinguish same;
   a. The use of a non-explosive removes safety, transport, handling and usage issues associated with employing and the detonation of an explosive device;
   b. An explosive is not introduced to the fire situation, where otherwise, such comes with the risk of creating or accelerating a fire;
   c. It removes the risk of causing a fire and injury associated with the mishandling of a typical aircraft fuel source;
   d. Reduces system weight, thereby increasing the effective payload;
   e. The effective radius or direction of the release of the fire extinguishment method employed is known. Using AI linked to sensors, the command control system(s) will determine whether to reduce the extent of a release, re-direct the direction of same, or to not release an intended release but to reposition and/or acquire a new target when it detects that a human, qualified structure or animal life is within the targeted blast area;
   f. The direction in which the blast wave is released is controlled by the system;

Propulsion:

1. The F.E.D.S. Drone employs a means to harness heat and vibration pre- during- and post access to the fire environment. This is a contained system that does not employ the use of fuels sources generally associated with drones and other aircraft;
2. The use of a non-explosive fuel source removes safety, transport, handling and usage issues associated with employing such fuels;

Geofencing and security:

1. Authorized access can be controlled by the use of biometrics and software mechanisms;
2. Geofencing restricts access and operation of the Drone within restricted areas and other aircrafts. Overrides can be built in for authorized operation in restricted areas;
3. Operating a Drone (autonomous and otherwise) of this nature requires monitorization by a safety officer;

Operational Redundancy:

1. The airframe is designed that in the event the exterior of the fuselage is compromised, operations of the F.E.D.S. Drone can continue until it is pulled out of the operating fire arena for repair;

Extinguishment and Recovery Cost mitigation:

- Reduced cost and time to suppress fires;
- Reduced risk of loss of life, loss of property and the loss to and damage of the environment;
- Reduction in economic loss, insurance claims, recovery and reconstruction;
- Where, for example,
  - The cost of five (5) F.E.D.S. Drones (“assets”) and full operation of same is less than $1 Mil USD;
  - Deployment of these assets reduces suppression time and cost by 20%; and,
  - It costs in excess of $70 Mil to suppress the same fire,
    - plus the cost of insurance claims,
    - recovery expense and time,
    - economic loss,
    - and the loss of life,

which effort costs more?

What do we want:

Partnering with China will bring AGS global and will bring global what China and AGS partners to create.

Seed funding of $950,000 – single or multiple source funding.

Investment and development Funding: $43.225 Mil, Years 1 - 3

Collaboration: US, China and UK;

Prototype development; Engineering and manufacturing; Research and testing.

Commercialization partnerships:

United States, China and UK: Cooperative licensure
– One Belt One Road, One World

Michael S. Thomas, JD
President & Chief Innovation Officer
Adaptive Global Solutions, LLC
Corporate Office
World Plaza, Suite 604,
141-07 20th Avenue
Whitestone, NY 11357
MichaelThomas@AdaptiveGlobalSolutions.com
(Tel) +1 917-690-6471; +1 802-434-5506

Law Offices of Albert Wai-Kit Chan, PLLC
World Plaza, Suite 604
141-07 20th Avenue
Whitestone, NY 11357

Al Kwok
Advisor
Ideation China-HK Limited
ajkwoksj@gmail.com

Nelson Tong
VP, Business Development
Ideation China-HK Limited
ntong@ideation.com