

Light Weight Low Power Multi-sensing Technology for Extreme Conditions

a. Abstract: The present proposal addresses the challenges of reliable, efficient, and safe transport and delivery of emergency services and sensitive payload by means of UAV or drones. While drone delivery has become a rapidly growing area, its growth and its success in this space is impeded by the fact that the majority of the sensing technology onboard drones is intended for navigation rather than the inspecting payload integrity and conditions during and after flight. Safe and reliable transport and delivery of sensitive payload requires constant monitoring of the health of the shipment and hence sensing capabilities specifically designed for the payload and is currently lacking. Sabri and collaborators will target three critical areas of drones technology and offer improvements and enhancements to current technology. The three targeted areas are: 1) on board wireless sensing capabilities (pressure, humidity, temperature, vibration) specifically intended for the payload 2) improved all-weather landing gear, and 3) impact detection. The team will also develop the first set of standards and protocols for safe and reliable delivery of sensitive products.

Areas of impact: Cold chain logistics, advanced sensing, healthcare delivery,

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