Mobilicom's MESH communication & Cybersecurity solutions for drones robotics and autonomous platforms

The UAV market is recognized as the largest growing market in the world of civilian aerospace robotics. The role of UAVs continues to expand and carry a broader range of capabilities in the growing UAV market. UAVs serve as a focal view to multiple missions and tasks for both the commercial market as well as for tactical missions. Despite the sophisticated and varying roles UAVs have in today's modern world, multiple communications and security challenges still remain:

- Secure communication lines, resistant to cyber attacks and threats
- Single communication units for control, telemetry & payload distribution which are low in weight, size & power consumption.
- Narrowband data transfer vs. HD and broadband IP networking
- Communication between multiple UAVs working as a unified entity
- Withstanding harsh environmental conditions
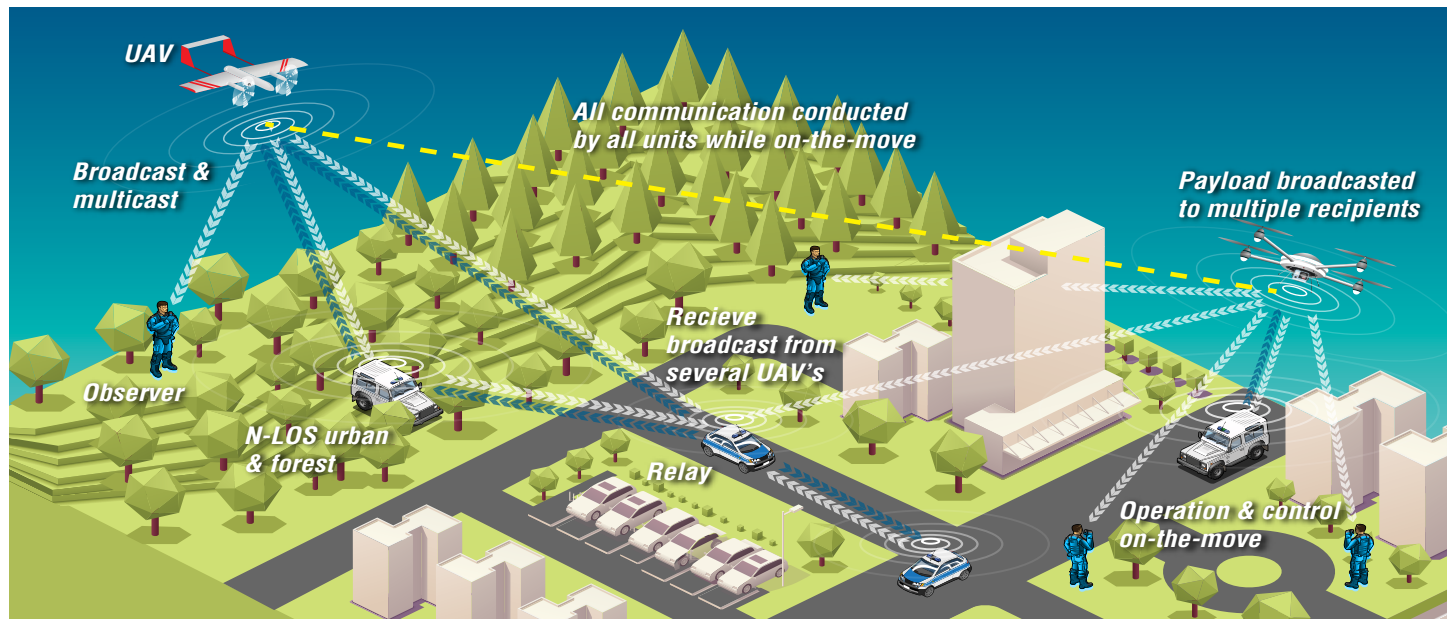- Communicating in N-LOS (non-line-of-sight) urban surroundings

With Mobilicom's Mobile single-box-solution, UAVs are fully equipped with Mobile MESH wireless communications enabling the transmission of HD video and data regardless of size, weight and power. Mobilicom's multifunctional units provide full flexibility in defining and configuring uplink and downlink prioritization, enabling:

- All communication types are supported on a single bi-directional communication channel, including: flight control, telemetry as well as payload control and distribution between the Operators and other units in the area.
- Detect, prevent and respond to multiple drone/robotics cyber-attacks in real-time by utilizing AI-based 360° cybersecurity system
- A single operator to control multiple UAVs
- Simultaneous receipt of data and video from multiple UAVs which allows for crucial decision-making by ground personnel.

Operational Highlights

- 360° cybersecurity system handling a wide breadth of attacks and measures

- With Mobilicom's configurable uplink/downlink channel , each UAV can serve as a relay to all other units in the area (UAVs, operators, recipients) whether on land or air

- Optimized for Fleet and Swarm operations

- UAV can be controlled & viewed by multiple operators from different sites

- Overcomes N-LOS, forest & urban environments, and disaster stricken areas

- Operates on-the-move – HD video and data communications between mobile vehicle or ground station communication with UAV while on-the-move

NDAA Compliant

- Short and mid-ranges UAVs to share and distribute all information in broadcast, multicast and unicast modes
- Each compact and lightweight unit to serve as a relay to other units (UAV's, operators, recipients) whether on land or air.
- Command and control of all UAVs via Mobilicom's Mobile GCS units as well as IP gateway to external networks, operation of UAV's HD video and data sensor, reception and transmission of HD video and data from all units while on-the-move.
- Ground Vehicles: Response teams to receive all information in real-time directly from the UAV while on-the-move.

Our MESH solution is uniquely designed to overcome urban, forest and N-LOS environments with a real-time synchronization ability. Mobilicom's Collaborative MESH transfers all information to any designated point via multiple routing paths, in parallel thus assuring a stronger and more resilient network. All this without degrading the system's throughput.

The Triple Layer security is comprised of three components: Immunity, Cybersecurity and Encryption (ICE suite). Each layer has a specific role to protect the whole platform, immune the private communication and encrypt the confidential data by preventing attacks that require physical access, physical proximity, and those that can be carried through from a distance.

Technology Highlights

- Collaborative Mesh, Data links and wide range of Ruggedized Controllers (GCS) and Viewers (RVT)
- Wide frequency range 75MHz-6GHz
- AI based ICE Cybersecurity suite as Triple Layer protection (Immunity, Cyber and Encryption)
- Designed to withstand shock, vibration and extreme temperature range
- Seamlessly integrates with end-to-end IP, Ethernet, VPN, VLAN applications for broadcast, multicast and unicast transmissions
- Highest form to factor ratio
- Battery operated & low power consumption

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About Mobilicom

Mobilicom is an end-to-end provider of cybersecurity and smart solutions for drones, robotics & autonomous platforms. As a high-tech company it designs, develops and delivers smart communication solutions focused primarily on targeting global drone, robotics and autonomous system manufacturers. The company holds patented technology & unique know-how for Mobile Mesh networking. It has a large, field proven portfolio of commercialized products used in a variety of applications. Mobilicom's competitive advantages includes outstanding security capabilities and performance in harsh environmental conditions. Mobilicom's large solution portfolio has been deployed worldwide.

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