department 13

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NEW US PATENT FOR COOPERATIVE SUBSPACE CODING (CSC) DIRECT APPLICATION TO DRONE DEFENCE CAPABILITIES LOWER INCREASED BANDWITH FOR WIRELESS NETWORKS

Highlights:

- New Patent Granted for Advanced Networking used in Counter-Drone Systems: Cooperative Subspace Coding Patent. No. 9270421
- US Grant of ground-breaking technology enabling data bandwidth increase between 5-20 times
- Technology also enables significant increase in data bandwidth for Wi-Fi, 3GPP LTE-Advanced standard, 4G, and next generation "5G" wireless networks.
- D13 now has 10 granted patents and 14 patent applications in its IP portfolio.

Perth, WA and Columbia, Maryland USA: Department 13 (D13) (ASX:D13) is pleased to announce that under our license agreement with GenghisComm Holdings, D13 has been granted a US patent on technology that will further enhance D13's drone defence capabilities and advanced communication networking. In particular, this technology addresses a key component in D13's Counter Drone Defence Solution for dealing with swarms of Drones as well as our strategic networking solutions products.

Cooperative Subspace Coding (CSC) is a method of encoding a signal by multiple nodes in a network to produce linear combinations of the original signals. This enhance security and increases data rates by as much as 20-fold. In a drone-defense network, the naturally random environment in which radio signals propagate can be used to produce perfectly random codes for encoding sensor data and network control commands. CSC can be used in all types of wireless and wired communications, as it provides a more efficient way to communicate than current network protocols, and it is particularly useful for streaming video and other multimedia services. There are also significant broader applications in Wi-Fi and cellular communications networks that enable increased bandwidth, better coverage, and improved reliability, especially where signals are weak, or when there is a lot of congestion.

The new US Patent 9270421 has been licenced to D13 by GenghisComm Holdings, the IP holding company of D13's Chief Science Officer (CSO), Steve Shattil under the terms of the existing exclusive Licence with D13 which cover the fields of drone defense and US and Australian government agencies and departments business

Mr Shattil is the inventor of dozens of US and foreign patents essential to wireless and radio protocols standards, including 3GPP (3G cellular), LTE (4G Cellular), 802.11n (Wi-Fi), 802.16 (WiMax), and 802.20 (Mobile Broadband).

The invention, CSC, will provide an unprecedented increase in data bandwidth via radio networks, as well as having direct application to drone defence technology, by dramatically enabling ad-hoc networks used to detect and communicate with airborne targets. It is related to earlier inventions by Mr Shattil in the field of Cooperative MIMO technology that is also exclusively licensed to D13.

D13 CEO Jonathan Hunter said, "Cooperative Subspace Coding technology is a hugely powerful tool that enables radio networks to receive an unprecedented increase in Data Bandwidth - up to a 20 times increase - which is significant for counter drone systems. And it is part of a longer-term strategy within our strategic networking solutions product offering. "

Mr Hunter said "drone defence would be enhanced by the invention because, in addition to enabling more information to flow through the network, it facilitates a software-defined radio (SDR) approach to detection and tracking. For example, multiple software programs can operate in a single sensor network to cooperatively track a swarm of drones, greatly enhancing the ability to detect and counter multiple hostile drones compared to a collection of independent systems."

Regarding the broader benefits of Cooperative Subspace Coding, the ability to increase cellular bandwidth capacity is becoming increasingly important as demand for bandwidth increases with additional users and content delivery services. We anticipate there will be significant interest in the technology from telecommunications companies.

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ABOUT Department 13 International Ltd

D13 was founded in Virginia in 2010 by a team of former military operators, scientists and engineers who apply proprietary innovative advanced technology to emerging requirements.

D13 is developing cutting edge software and communication systems that have the potential to transform the networking and communication fields as well as current applications in drone defense, mobile phone IT security and secure enhanced android phone systems.

D13 has 10 patents and 14 patent applications in the development of wireless protocol manipulation and communication networking software with applications in:

- Drone defense;
- Local area and wide area cellular communications and networking;
- Enhanced data bandwidth for all digital communications
- Cyber security for mobile devices;
- Sophisticated applications in the RF environment (Radiometrics).