

# Deploying mission critical communications

Rajant continues to transform and reinvigorate the military sector



**Mike Van Rassen**  
President of Military & Government Markets

*Mr. Michael J. Van Rassen graduated from the University of Toledo and was commissioned in the Ordnance Corps in 1985. He earned a Master's Degree in Business Administration from George Mason University in 1996. He is a combat veteran of Operation Just Cause and Desert Storm. Mr. Van Rassen has 20 years of acquisition experience in uniform and as an Army Civilian.*

*Mr. Van Rassen started the C-RAM effort in the summer of 2004 and led that effort until his retirement from Federal Service in 2016. During this tenure, he led acquisition efforts in Command & Control, Missiles, Guns, Radars, and Communications. He is the past recipient of the Army Product Manager of the year, The Superior Civilian Service Award and 2017 inductee to the Air, Space, Missile Defense Distinguished Civilians Wall of Honor.*

**Q: Could we just start with an understanding of Rajant, and your history of working with military forces?**

**A:** Rajant Corporation's inception came on the heels of the 9/11 attacks in the U.S. and was incorporated in October 2001 by co-founders, Robert Schena and Paul Hellhake. There were documented communication failures at the federal government level during and after the attacks that Mr. Schena and Mr. Hellhake supposed as fixable. Like many of us, they witnessed frontline responders facing network issues that affected the communication process, taxed dedicated emergency service lines and caused struggles for citizens looking to contact loved ones by phone. To combat this, Rajant brought together a team of engineers and quickly came to market with our patented Kinetic Mesh® private wireless networks powered by InstaMesh® networking software.

Our engineers first built Kinetic Mesh for military and defense applications. They specifically designed Rajant radios, known as BreadCrumbs®, for the rugged terrains and harsh physical environments seen by troops in the field. Over the decades that have followed, our technology has been battle-proven to support the mission-critical communications soldiers need to overcome environmental adversity with steadfast reliability.

**Q: Soldier Modernisation has been talking about the digital battlefield hitherto, the increase in technology for the modern warfighter and the need for always-on data transfer. Are there recurring problems that you find when looking at the deployment of new systems?**

**A:** As the battlefield has digitized, the recurring problem is one of frequency management and deconfliction. This is not only an enemy jamming a signal, but friendly forces inadvertently jamming or blocking signals. This becomes exasperating when the battlefield is in or near urban areas.

**Q: How are forces overcoming these problems by deploying Rajant Kinetic Mesh for services such as situational awareness, tactical strategies, etc?**

**A:** Rajant Kinetic Mesh helps to overcome these problems in several ways. First, each BreadCrumb serves not only as a radio but as a relay as well. It does this using very little bandwidth overhead, and with our dynamic power frequency reuse capability, counter-intuitively gets better as more radio nodes are added to the network. Second, Rajant's military radios with Kinetic Mesh are fielded with three or four different transceivers (different frequencies) in each radio. The radios automatically switch over to a different frequency, without human intervention, to most efficiently move the data. These decisions are made at the individual radio level eliminating the need for a central controller and allowing the Rajant network to deal with the complex, ever-changing environment of the modern battlefield. Performance is uncompromised in terms of mobility, scalability, reliability and capacity, regardless of circumstance.

**Q: The digital battlefield is overcoming problems particularly for special forces and frontline spotters and scouting groups. How can Rajant work with them for data transfer of target coordinates to automated artillery, drones and air support?**

**A:** Rajant's current battlefield deployment involves the real-time, safety-critical intercept of Air Defense targets. This same data is networked to provide targeting information to artillery and air support. Rajant has extensively expanded in the area of drones in a couple of ways. First, in the area of drone intercept, the use of full-motion video is necessary. Rajant's high-bandwidth, low-latency network is used to prosecute drone engagements. Second, we have proven our ability to autonomously network drone swarms. We have currently proven the capacity to network over 100 drones with robots in an operation and are now working to demonstrate the ability to network a 250-drone swarm.

**Q: Where could our readership view more information on Rajant Kinetic Mesh?**

**A:** Visit [Rajant.com](http://Rajant.com). Under the Markets section, find detailed information in "Military & Federal", including a case study, white paper and video. ■

[www.rajant.com](http://www.rajant.com)

