

# COMMUNICATIONS THAT HOLD UNDER FIRE



Silvus StreamCaster® MANET radios integrated across CERBERUS MI sUAS and CODiAQ, maintaining link integrity during weapon recoil

## MISSION READY

- StreamCaster MANET radios integrated across two Skyborne armed robotic systems: CERBERUS MI sUAS (air) and CODiAQ armed quadraped on the Ghost Robotics Vision 60 (ground). Radio integration on CERBERUS MI sponsored by the Marine Corps Warfighting Lab.
- Silvus' battle-tested MN-MIMO waveform delivers resilient, high-bandwidth video, sensor, and control links - even through the shock and vibration of live weapon fire.
- Small tactical teams can operate armed air & ground robotic systems as a unified force, maintaining command and real-time video links - even under enemy fire.

## PROVEN RESULTS

- Thousands of rounds fired across both platforms across testing to date, with no recoil-induced link failure
- No link degradation and no impact to video feed quality or latency
- System environmentally tested to MIL-STD-810 for mechanical shock and vibration
- Tested at Skyborne's Australian facility and during multiple U.S. Government attended live fire demonstrations, Inspection and Performance Verification events

## APPLICATIONS

- Special Reconnaissance (SR)
- Direct Action (DA)
- Counter-Terrorism (CT)
- Full Spectrum ISR, Lethal / Non-Lethal
- Cross-Domain Robotic System Employment
- Dismounted SOF operations
- Remote and unmanned weapon employment
- Positive identification of the target in comms-denied environments

## Case Study: Recoil-Robust Communications for Weaponized Robotics

As weaponized robotics take center stage on the modern battlefield, unmanned platforms are increasingly fitted with reloadable, high-recoil weapon systems.

Legacy unmanned platforms and datalinks were built for ISR—designed to observe, stream video, and process telemetry without internal disruption. Adding a weapon changes the dynamic entirely. Every shot fires shock, recoil, and severe vibration directly into the airframe or chassis. Without battle-tested comms, the radio link is often the first component to fail. Dropping connectivity at the moment of engagement blinds operators exactly when situational awareness is most critical.

To solve this challenge, Skyborne Technologies integrated Silvus StreamCaster® MANET radios across its tactical armed robotic fleet:

- **On the Ground:** A rugged, battery-powered SC4200EP with a quick-release mount was deployed on the CODiAQ armed quadraped (built on the Ghost Robotics Vision 60 platform).
- **In the Air:** An SC4200P OEM module was seamlessly integrated directly into the airframe of the CERBERUS MI sUAS under contract with the United States Marine Corps.



CERBERUS MI sUAS



CODiAQ armed quadraped

### Tested Under Fire. Proven Under Stress.

Skyborne subjected both platforms to relentless live-fire testing across Australian facilities and U.S. Government Inspection and Performance Verification demonstrations. The results were decisive:

- **Zero Recoil-Induced Link Failures:** Across thousands of rounds—including low-velocity grenades and high-velocity 12-gauge 2-3/4" slugs (>1500 FPS)—the Silvus link maintained uninterrupted connectivity.
- **Zero Performance Degradation:** Video quality and latency remained entirely unaffected throughout firing sequences.
- **MIL-STD-810 Validated:** The integrated communications architecture successfully passed rigorous environmental testing for mechanical shock and vibration.

By pairing Skyborne's platforms with Silvus' resilient mesh networking, small tactical teams can seamlessly deploy armed air and ground robotics as a single, fully networked force. When the weapon fires, **the link holds.**

# SKYBORNE & SILVUS TECHNOLOGIES COMBINED SPECS

## LIVE-FIRE TESTING RESULTS

|                              |                                                                                                                      |
|------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Platforms                    | CERBERUS MI sUAS (air); CODiAQ armed quadraped on Ghost Robotics Vision 60 (ground)                                  |
| 40mm LV grenades fired       | > 1000                                                                                                               |
| 12ga shotgun rounds fired    | > 2000                                                                                                               |
| Ammunition                   | 40mm LV grenades; various 12-gauge including >1500 FPS 2-3/4" 1oz slugs                                              |
| Recoil-induced link failures | None                                                                                                                 |
| Link performance             | No degradation; no impact to video feed quality or latency                                                           |
| Environmental                | Tested to MIL-STD-810 mechanical shock and vibration                                                                 |
| Test locations               | Skyborne AU facility; multiple USG attended live fire demonstrations, Inspection and Performance Verification events |

## SILVUS STREAMCASTER MANET RADIO SPECIFICATIONS

|                           |                                                                          |
|---------------------------|--------------------------------------------------------------------------|
| Model                     | StreamCaster® 4200 (SC4200)                                              |
| Configuration             | 2x2 MIMO                                                                 |
| Output power              | 4W (customer-selectable: 1W, 4W, or 10W)                                 |
| Frequency bands           | 2200-2500 MHz + 4400-4940 MHz (dual or single band, customer-selectable) |
| Waveform                  | Mobile Network MIMO (MN-MIMO)                                            |
| Data Rate                 | Up to 100 Mbps (Adaptive)                                                |
| Ground variant (CODiAQ)   | SC4200EP-BB, battery-powered, quick-release mounted                      |
| Air variant (CERBERUS MI) | SC4200P OEM module, airframe-integrated                                  |

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A weaponized robot that loses its link the moment it fires is a liability, not a capability. The value of this integration and the extensive testing is that the Silvus link stays operational through the recoil, so the operator keeps eyes on and control of the system when it matters most. That is the difference between a range demonstration and something the warfighter can actually deploy.

— **ADRIAN DUDOK**

Chief Executive Officer, USA  
Skyborne Technologies

For weaponized robotic systems, network connectivity is mission-critical. In collaboration with Skyborne Technologies, we demonstrated that Silvus' StreamCaster MANET radios maintain resilient C2 and high-data-rate communications through the extreme shock and vibration of live weapons fire, with no measurable degradation to video or control links. The result is a combat-ready communications architecture that keeps operators connected and in control.

— **NEEMA DANESHVAR**

Vice President of Product,  
Silvus Technologies

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