# Silvus Demonstrates 10 Radio Mesh Network on AUVSI Show Floor

## Background

The Association for Unmanned Vehicle Systems International (AUVSI) is an international non-profit organization dedicated to promoting and supporting the unmanned systems and robotics industry through communication, education and leadership.

Now in its 39th year, AUVSI Unmanned Systems has been the premier event in the unmanned systems industry. 8,000 attendees from over 40 countries converged in Washington, D.C. for the largest international unmanned systems conference where over 600 exhibitors consumed more than 350,000 square feet of exhibit space.

## Silvus Mobile Networked MIMO

MN-MIMO is a revolutionary new digital communications waveform developed by Silvus Technologies. MN-MIMO is the result of more than 9+ years and $40M in U.S. Government funded research in cutting-edge communications technologies. Leveraging the latest innovations from across the communications industry, MN-MIMO has been engineered from the ground-up with a specific focus on providing reliable, high bandwidth, mesh video and data communications in challenging mobile and non-line-of-sight (NLOS) environments where traditional COTS technologies fail.

## AUVSI Live Demonstration

Silvus demonstrated a 10 node live mesh network on the show floor, along with collaboration from a diverse consortium of industry partners:

- Troll Systems
- QinetiQ North America
- SEMCO
- UAV Solutions
- L-3 Communications – Communications Systems West
- Johns Hopkins University – Applied Research Laboratory

Figure 1 shows the network configuration as well as the booth number that each node was placed in. The entire mesh network operated within a single 20MHz RF channel within the 2.4GHz band.

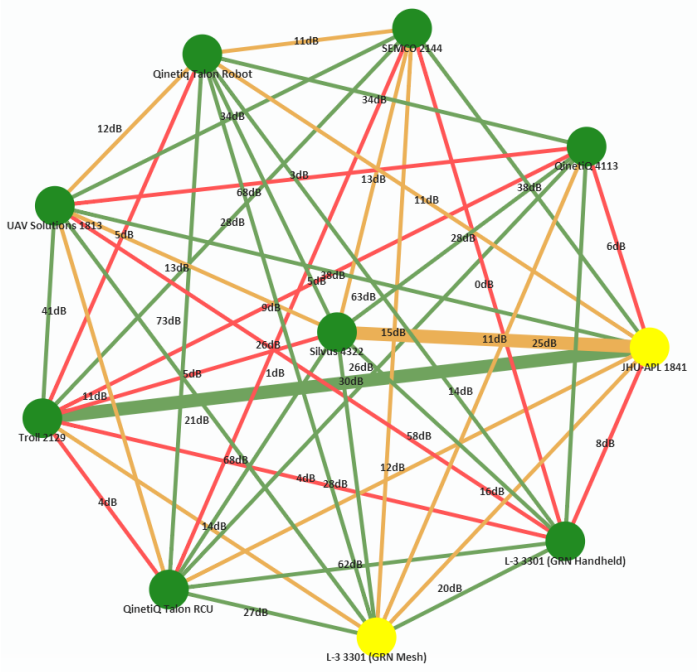


***Figure 1.*** *Network Topology of 10 Radio Network Demonstrated Live at AUVSI Show*

During the show, 4 simultaneous missions were simulated over the Silvus mesh network:

1. Thermal video was relayed from L-3 Wescam sensor to an L-3 ROVER (both in the L-3 booth). L-3's Gateway ROVER (using Silvus MN-MIMO at the core) relayed the video stream to the Silvus booth where it was viewed in real time.
2. A pan-tilt-zoon (PTZ) camera gimbal in the Troll booth was controlled and viewed in the Silvus booth, demonstrating the bi-directional capability of the Silvus wireless link.
3. Video from a Talon 120 UAV sensor in the UAV Solutions booth was viewed in the Silvus booth .
4. A QintetiQ talon robot with 4 onboard cameras was controlled via Silvus link.

## Summary

With the support of several industry partners, Silvus was able to demonstrate a large-scale mesh network live at the AUVSI show. Despite the abundance of WiFi interference, the Silvus network performed flawlessly throughout the entire show.

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