

The MoSA-M4 platform

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The MoSA-M4 platform

Designed and manufactured by Broadcast Solutions, Mobile Situational Awareness (MoSA) platforms facilitate the deployment of tactical communication systems. The MoSA-M4 is a panel van that integrates a command, control, communications and computers (C4) suite with optimised storage and logistics.

Be it tactical deployments for security organisations, emergency operations for government services or maintenance procedures for industrial facilities, all require situational awareness in the field. Such ad hoc implementations have similar requirements: get to location; set-up cameras and sensors; enable real-time communications with field-operators; analyse incoming data and video feeds; backhaul resulting information to a central command and control centre or remote operator.

Digital technology changes the area of operations

Until recently, the deployment of such systems remained limited. Available solutions were too costly to implement or too cumbersome to deploy. Transmissions were often limited to voice, text data and basic telemetry. Today, the playing field has changed. Breakthroughs in transmission and video encoding allow for a new generation of MoSA platforms.

Resilient IP transmissions

Mesh IP radio technology provides the path for high-bandwidth, resilient transmissions in the field. It combines the best in radio technology (COFDM, MIMO antennas) with mesh network topology. In such a wireless mesh network, each radio is a node that simultaneously plays the role of transmitter, receiver and repeater. Nodes connect directly, dynamically and non-hierarchically to as many other nodes as possible and cooperate to efficiently route data across the resulting network.



Silvus Technologies StreamCaster 4200 radios support a wide range of body-worn rugged accessories including Push-to-Talk, IP camera, Wi-Fi dongle and GPS tracker.

Support for real-time HD and 4K video

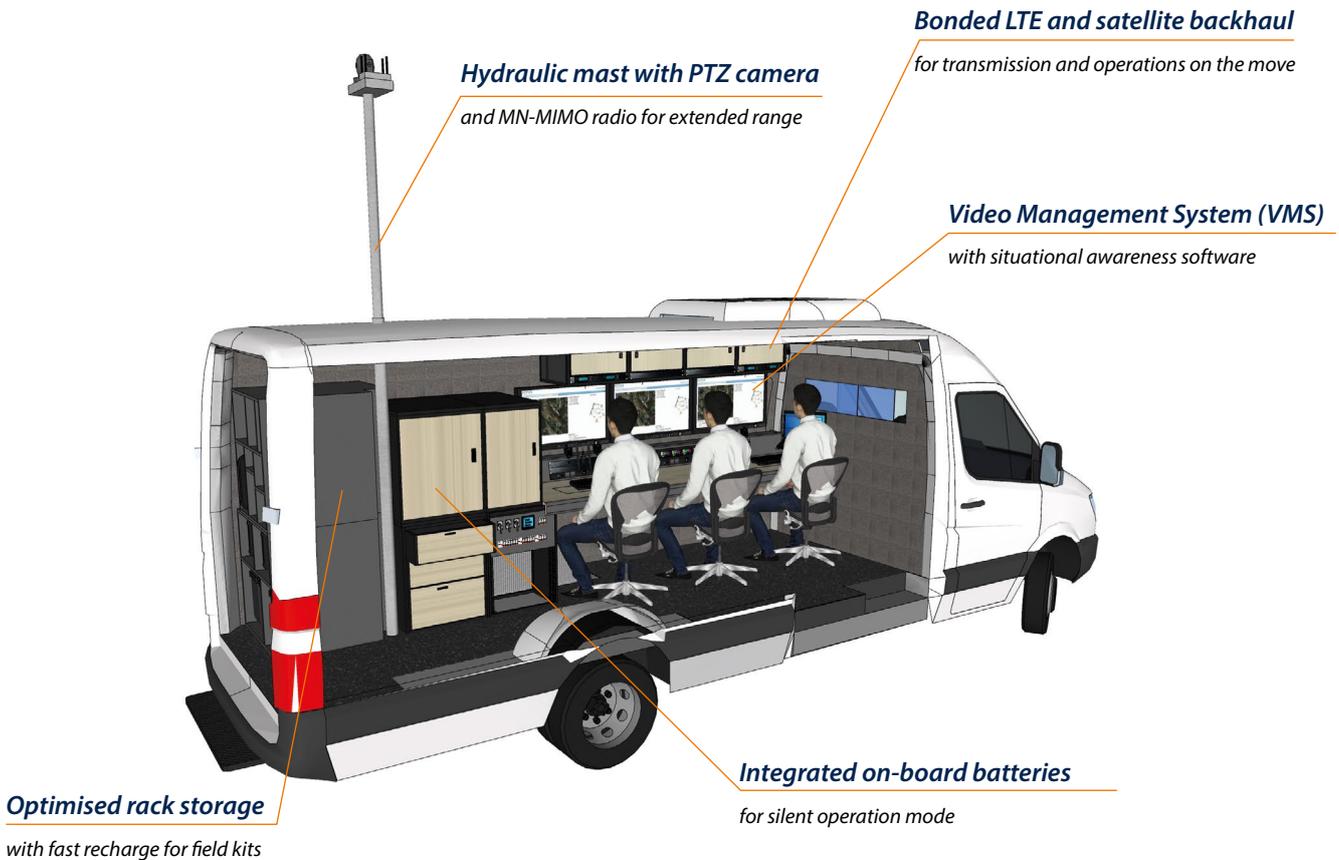
Instead of the few dozen kilobits of bandwidth supported by legacy systems, the resulting mesh IP radio network provides dozens of megabits. This thousandfold increase powers full-duplex IP networks that enable voice, data and even video communications. Combined with recent advances in coding and decoding algorithms (CODEC), such networks support the transmission of high-quality and even broadcast quality HD and 4K streams. Technologies such as MPEG-4 and HEVC allow for the delivery of full resolution video at 24 frames or more per second.

Tactical deployments call for integrated platforms

These new transmission and video technologies allow for the design of next generation MoSA platforms. Their successful implementation relies on the capability to streamline energy distribution in the field to power networked devices; the need for software applications to exploit the resulting data; the ability to backhaul that data to a centralised command centre or remote user.

Optimised power management

Silvus Technologies body-worn radios use Twist-Lock batteries which are also used to power connected sensors such as Point-of-View (PoV) cameras or Wi-Fi routers. MoSA vehicles embed alternative power sources, adequate current distribution and an array of rechargers to accelerate the on-board energy transfer to these swappable field batteries. In addition, Broadcast Solutions MoSA tactical kits offer mobile energy sources in Pelican-case format to streamline the deployment of Pan-Tilt-Zoom (PTZ) cameras and computer equipment in the field.



On-board C4

Beyond logistical support, MoSA vehicles typically incorporate a compact command, control, communications and computers (C4) suite. To that effect, the MoSA-M4 offers a C4 for three to four operators. Its digital intercom system facilitates communications with field units. Its integrated Video Management System (VMS) takes advantage of on-board computers and networking equipment to provide real-time monitoring, recording and analysis of feeds from the area of operations. It can be combined with Geographic Information Systems (GIS) to provide further intelligence to operators on-board the vehicle or dispatched in the field of operations.

Data backhaul on the move

Such integration becomes all the more relevant when a backhaul to a remote data centre or central command and control is ensured. To that effect, all Broadcast Solutions MoSA platforms cater for a variety of remote communications equipment. The standard bonded cellular connection can be complemented with a bi-directional satellite link. Depending on operational requirements, such a satellite terminal can support static or on-the-move transmissions to a variety of networks—both civilian Ku- and Ka-bands as well as military X-band.

A rich range of options

MoSA platforms come with a variety of options to address the specifics of any tactical environment, including:

- ▶ A wide range of cameras and field-sensors to address mission requirements
- ▶ Vectorised antennas and boosted amplifiers for ultra-long-range transmissions
- ▶ Drones and tethered blimps for optimised perimeter surveillance
- ▶ Ruggedised tablets for field personnel
- ▶ Data encryption and cybersecurity
- ▶ and more



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