What is the Multi-Agency Radio Communication System?

The Multi-Agency Radio Communication System (MARCS) is Ohio’s wireless, digital communication network for first responders, providing fiber optic and microwave technology that enables State, local, and federal agencies to communicate instantly with one another during public safety events.

The System
MARCS operates on a statewide platform capable of serving all first responders in Ohio. The system components are mobile voice, mobile data, and computer-aided dispatch – providing GPS-based auto vehicle location, resource recommendation, and display.

- MARCS must operate at all times and under all weather conditions. The use of microwave and fiber optic technology allows the system to remain connected. Using multiple network connections provides redundancy to minimize the risk of an outage.
- Approximately 360 towers located throughout Ohio provide the infrastructure for connectivity to the MARCS system.

Towers on Wheels
Three 80-foot “Towers on Wheels” can be requested for events or emergencies requiring interoperable communications.

Participants
More than 2,800 public safety/public service agencies participate in MARCS.

- More than 135,000 radios and more than 1,800 unit-computers are on the system.
- Users make a capital investment in equipment for radios and in-car computers. Many agencies seek grant funding to cover some or all of these costs.
- Low monthly subscription fees for radios, computer-aided dispatch, and mobile computer terminals.
**Background**
The need for a modernized first-responder communication system was made apparent by the 1990 Shadyside flood and the 1993 Lucasville prison riot. These events revealed gaping holes in communication through existing radio systems, affecting the ability of emergency personnel to coordinate efforts during emergencies. Following these events, the Ohio General Assembly authorized the development of what was to become MARCS. Construction began in 2000.

In 2013 the State embarked on a $90 million upgrade because the system had reached its service capacity. The upgrade was completed in July 2015, a year ahead of schedule and $10 million under budget.

This upgrade provides Ohio with an Internet-protocol based, integrated system with the coverage and capacity to provide voice and data service for up to 256,000 devices in the state, saving localities the millions of dollars that would have been required to modernize and maintain their communication systems. The upgraded MARCS platform was developed with a lifecycle that will keep it viable through 2039.

**Operations:**
The MARCS Program Office is responsible for the oversight, maintenance, and repair of the MARCS network. The network operations center operates 24x7. The MARCS Program Office provides free assistance with ordering equipment to best suit each organization's needs through a discounted state term contract, programming new radios, and training staff.