David A. Minster, NA2AA, ARRL Chief Executive Officer, na2aa@arrl.org

Second Century

YEAR of the VOLUNTEERS

Innovation in EmComm

Many hams come into amateur radio with the desire to play a role in emergency communications. This is nothing new. In his classic book from 1936, 200 Meters & Down*, Clinton DeSoto writes, "The right of amateur radio to continued existence derives from its public utility. In common with all forms of radio, it must operate in the 'public interest, convenience, or necessity' or it has no right to exist." That is a very powerful statement in support of EmComm.*

Clinton goes on to imagine what innovations lie ahead for amateur radio. With no specific foretelling of any major innovations in EmComm at hand, he notes the significance and importance of amateurs using the new radiotelephone mode to use voice for passing traffic or handling emergencies. He does allow for a vision of the future where "one day you will be able to converse, instantaneously, with any person anywhere on earth," including "aboard a space ship…" Pretty good prognostication for 1936! Many innovations paved the way for this nearly 90-year-old prediction to become reality.

So what of innovation in our EmComm space today? As we look toward the future, we must recognize that significant work is being done by federal and state agencies to create standards that develop a pool of highly trained communications experts with the equipment as well as the ability to interoperate between branches and geographies. Training programs of excellent quality and scope are being developed and implemented. Scenario planning has been excellent in handling myriad situations, from the obvious such as hurricanes and earthquakes, to lesser-likely but potentially harmful events such as cyberterrorism. Taking a holistic approach to people, process, technology, scenarios, and training provides a robust platform for both today's and tomorrow's EmComm needs.

With that as a model to follow — and perhaps shamelessly steal from — where do we go next to innovate? A good start might be portable resiliency. Think about creating a plan that defines your own role in personal, neighborhood, local, or a larger span of involvement, and your ability to live in what may become a short-term off-grid situation. Consider using power sources beyond traditional generator power, including solar and wind. Of course, the ability to sustain your personal needs through an event may also cause you to consider innovative ways to store and process food and water. Ensuring your ability to take care of yourself is job one.

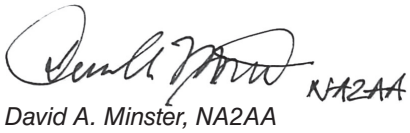
Going one step further, how can you create communications or alert capabilities within your neighborhood or local area? You may want to consider ways to interoperate with neighbors by supporting not just amateur bands, but FRS and GMRS as well. Taking the lead within your neighborhood or association could result in you playing an important role if conditions deteriorate. You may become the hub of health and welfare traffic outbound while alerting locals to important news or updates.

Moving more deeply into technology, how can you integrate satellite communications into your EmComm plan? While there are low Earth orbiting satellites that would provide short windows of communications during a widespread outage, we all should take an interest in seeing AMSAT or other agencies make high Earth orbit or geostationary satellites available for EmComm use. With existing technologies, having voice, data, and even video would be easily provided for. And then there's the S-word: Starlink. If your ARES group wants or needs to integrate internet access into its response scenarios, Starlink now has account types and usage plans that fit well within a disaster scenario. Extending an AREDN networking topology with a Starlink connection creates an interesting capability for EmComm.

When looking for an extended footprint for your EmComm plan, the ability to integrate unmanned aircraft systems (i.e., drones) becomes very powerful. Careful planning of the size and power requirements for drone use could lead to long-lasting emergency repeater operations, as well as first-person view (FPV) capabilities that could be used for area reconnaissance or search and rescue.

Lastly, innovation in EmComm does not need to be limited to the use of various radio technologies. It can also be driven by the development of software, from PCs and SBCs to tablets and smartphones. Integrating disparate data sources into live EmComm operations could create some remarkably powerful solutions. The same is true for processes and training. Designing innovative solutions for how individual participants interact with one another and potentially interoperate with others on an official or ad hoc basis can likewise create more powerful EmComm response scenarios.

Opportunities abound for our Amateur Radio Emergency Service® and other AUXCOMM organizations and services. Looking for ways to bring creative and innovative thinking from an amateur radio perspective will allow us to remain vital in the space, as we strive to be radio active! Be a connector, bringing people together to brainstorm and experiment with these ideas. And share: let us know what you're doing, so we can all learn together!



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