

# At 50, EPG cog in U.S. military testing

BY BILL HESS  
AT EASE

FORT HUACHUCA — A new high-technology life began for this Southeastern Arizona Army post when the Electronic Proving Ground came here and re-activated the fort on Feb. 1, 1954.

A half-century later, much of the post's missions are in the Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance, the military's C4ISR arena. EPG is still the major leader in the testing and developing of critical systems for the Army and all of the nation's armed services.

**A HISTORY**  
of the  
Electronic  
Proving  
Ground  
and  
upcoming  
events and  
exhibits  
on it.  
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Col. Jerome Payne sits at the EPG's helm. And he is the only soldier now with the organization, that includes 130 civil service employees and more than 400 contract workers.

"Right now we do about 250 tests a year, small ones that last a few days to large ones that can take two months," he said.

Testing continues to be the main part of EPG's reputation.

At any one time there are from 12 to 15 tests taking place. Not all of them are physically being done on the thousands of acres under the organization's control on Fort Huachuca, Payne said.

be conducted by EPG people using assets scattered throughout the United States and other areas around the world, he said.

As an example, if flight operations are needed, that can be done using helicopters assigned to Fort Bragg, which can electronically simulate what is needed to test a piece of equipment EPG is responsible for.

The more than \$100 million of testing facilities on the post allow EPG to do more than \$50 million of tests a year, Payne said.

The Army, Air Force, Navy and Marines, as well as other federal agencies and civilian companies, use the proving ground.

The civilian companies are interested in having something they are working on validated by the organization.

EPG acts as an underwriter laboratory, certifying systems, which is just one step of many needed before any equipment is used by the military.

Payne said that Fort Huachuca is important because of the synergy it has with a number of different organizations involved in a test, developing and fielding of high-tech equipment and systems.

"In many cases we have the testers, developers and users here on Fort Huachuca," he said.

The Department of Defense's Joint Interoperability Test Command is another role player in creating this synergy.

The command has to certify that any piece of C4ISR equipment to be used by the military can work with all the services' systems.



Steven Mason, the airspace safety officer for the Electronic Proving Ground on Fort Huachuca, discusses the organization's capability to monitor flight activities involving the testing of manned and unmanned aircraft.

One of the most important tests being done at EPG is Force XXI Battle Command for Brigade and Below, which seeks ways to identify the friendly forces, what the Army calls Blue Forces, Payne said.

## Not all tests done on post

The beauty of today's digital electronic world is that any size military unit, such as an Army division, can be simulated by EPG, eliminating the cost to move soldiers and equipment to an area to be tested, Payne said.

Vehicles, such as trucks, can and are put out on Fort Huachuca and electronically simulate tanks. The EPG also provides cost and test efficiency, Payne said. By not requiring the movement of people and equipment, the proving ground can cut back on the time needed to set up a test.

"We currently have a well-defined communications network infrastructure that provides us the capability to link multiple test facilities together for the purposes of evaluating a system using real, and simulated tactical units operating in real-time," Payne said.

The approach allows EPG personnel to see how well hardware or software "will perform from a number of different perspectives simultaneously," Payne said.

To help EPG, there has been an investment in the past two years in developing and refining the organization's high-speed net-



Col. Jerome Payne, commander of the Electronic Proving Ground, talks about the history of Fort Huachuca and the EPG and how they intersect.

works, he added. There are time lines to schedule and set up a test, which typically takes two-plus years. Without having to move soldiers to a test area in most cases, the time period can be shorter, Payne said.

In many cases existing units on the post provide soldiers for some tests, such as the 11th Signal Brigade when it comes to looking at communication systems.

In the electronic arena, systems are getting smaller: EPG is an im-

portant part of determining if systems that are smaller, but have more capacity, can be used by the military, Payne said.

For example, Global Positioning Systems are smaller and more accurate than when they first were used, and each change is tested at EPG.

## On the leading edge

In the past 50 years, people at EPG have seen major develop-

ments. "We've gone from punch cards with mainframe computers to PC's that have the same capability in notebooks," Payne said. "EPG has leveraged this capability just as the business sector does."

As the business community processes and reduces the cost of operations while increasing the quality of what it produces, so does the proving ground.

The EPG helps to provide critical systems for the Army's and Defense Department's C4ISR programs.

Payne noted that many businesses approach EPG and pay the costs for testing equipment and systems they are interested in selling to the military.

A business then gets a report card on a new system to see if it is what they want to do or what changes they have to make.

Soldiers also come up with ideas once a system is accepted and fielded, requiring additional testing to be sure that no problems occur.

When the first of the Army's Stryker Brigades was being formed, soldiers said they had to have a better way to incorporate shelters with the vehicles.

That led to the development of a system that can be rapidly put up and taken down while not interfering with electronic equipment, Payne said.

Instead of having extra vehicles to carry shelters in which

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## EPG: Has special program in which 10 engineering interns have been recruited

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high-tech systems were located, the new shelters are part of the main vehicles. That reduces a unit's footprint when it deploys, and it uses less space when transporting on an Air Force cargo plane, Payne said.

Listening to soldiers or any military user means "to have value added we need to have the ability to look at systems through a soldier's eyes," the colonel said.

People at EPG and others in the test and development units know it will be the soldiers use equipment and systems, and they have to be comfortable with them, he said.

## What's ahead for the EPG

A former enlisted infantry soldier and later infantry officer, Payne became an Army acquisition officer in 1989. Knowing what the soldiers in the field need helps him to understand stand the importance of EPG.

There are new systems and equipment, such as new unmanned aerial vehicles, being developed that will enhance those in combat and those who support them.

EPG is where drones, the pilotless aircraft of those

days, were launched and tested in the late 1950s and the early 1960s.

At that time, a UAV had to be brought back to the ground, offload its camera and develop the film, which was then sent to an intelligence soldier to analyze.

That took time. Today, a UAV can be launched, flown to a battle zone, take video pictures, send them back in real-time to be immediately analyzed so combat commanders can make decisions.

In some cases, a UAV will find, send back information and then be directed to launch a missile at a target almost immediately, Payne said.

EPG continues to grow in expertise.

It has a special program in which 10 engineering interns from the University of Arizona have been recruited in the past year.

"As we evolve we will continue to leverage technology to ensure that EPG continues as the tester of choice in supporting requirements from C4ISR systems regardless of which service the support or where the system is being developed," Payne said. "The next 50 years will be as exciting as the first half century."



Fort Huachuca's North Gate, which is at the south end of what is now Huachuca City, is seen in 1951, following severe downsizing that followed World War II. This gate is no longer open. The fort

closed in 1947, re-opened in 1951 and closed again for about eight months from mid-1953 through early 1954. The fort re-opened as the Electronic Proving Ground on Feb. 1, 1954.

## Off-and-on activation ended with EPG's opening

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FORT HUACHUCA — Military technology has made major leaps, primarily after World War II.

And what was a slowly deteriorating Army post in Southeastern Arizona would soon find itself a major player in the world of high technology.

Founded in 1877 as an Army installation to protect settlers and others in the Arizona territory, Fort Huachuca was mostly a cavalry installation.

Many of the historic black units served at the post. During World War II the 92nd and 93rd Infantry Divisions trained at the fort, with one division serving in Europe and the other in the Pacific.

The fort then was deactivated on Sept. 15, 1947.

It was re-activated on April 20, 1951, a period when the United States was engaged in the Korean War. But it was deactivated again on June 30, 1953.

Less than a year later, on Feb. 1, 1954, the fort was re-activated with the Electronic Proving Ground being the major Army organization on the installation.

As part of a "Sabers to Satellites" celebration in February, there will be a number of events to mark the re-activation of the fort and the establishment of EPG.

High technology has been the avenue traveled by many Army units for more than a half-century.

The beginning of the "Electronic Era," as Cornelius C. Smith Jr. wrote in his book, "Fort Huachuca: The Story of a Frontier Post," started on the post.

As the Cold War heated up, America's armed forces knew they had to find ways to counter Soviet electronic gizmos and develop their equipment to be more powerful than the enemy's.

In the early years of EPG's existence, the unit tested an automatic electronic switchboard, a mobile radio-central and tropospheric scatter radio transmission, combat surveillance equipment, electronic counter measures devices and drones, which are now called unmanned aerial vehicles.

Another major test was a way to use a computer to help control artillery fire. The post's West Range was the main site for the program.



Fort Huachuca's Main Gate was open for business again in 1954 as the Electronic Proving Ground began operations in Southeastern Arizona.

A battlefield TV system, with cameras on the ground and in the air to bring tactical information to a commander at a TV set up in his command post, also was being developed.

Today, a commander can engage in a video teleconference and use secure, high-speed Internet connections with his troops and his superiors.

The signal and intelligence communities, along with other test and development units, eventually made the post their home, all working together in what is called some of the best synergy in the Army, if not in the military.

As America's armed forces realized they had to have systems that could communicate with each other, organizations devoted to doing that came to Fort Huachuca.

The Department of Defense's Joint Interoperability Test Command was one of those groups. It ensures systems and equipment are compatible among all branches of the military.

Over the years, EPG has seen its soldier force go down, from a 700-strong battalion to just one soldier today — Col. Jerome Payne, commander of the unit. Although a company of soldier posi-

tions remains on the books, it is doubtful they will be filled any time soon.

Other tidbits of EPG history are:

- EPG was initially under the operational control of the Army's Chief Signal Officer.
- Soon after the post was re-activated and EPG established its first general officer was Maj. Gen. Emil Lenzner, who commanded from 1954 to 1957. There were 11,000 soldiers and civilians under his command.
- Lenzner, which has a street named after him in Sierra Vista, was followed by five major generals who commanded EPG until 1966.
- In 1966, the rank of EPG's commander was lowered to colonel, when a major general in charge of the Army Strategic Communications Command assumed control of the fort. In 1991, the Intelligence Center, part of the Army's Training and Doctrine Command, assumed installation responsibilities.

Sources: "Fort Huachuca: The Story of a Frontier Post" by Cornelius C. Smith Jr.; Robert E. Frese, EPG chief scientist in 1961; and, Col. Jerome Payne, commander of EPG.