

Attached is an article from the recent issue of The Economist which provides a succinct description of the Army Chief of Staff's vision for meeting the threat. General George will be speaking during the AUSA meeting on Tuesday of this week at the Washington Convention Center.

Today was the Army Ten-Miler with over 35,000 registrants running in the District and virtually around the world. Here in Washington the race began with air temps of 55 degrees but reached 68 degrees when the middle of the pack hit 7 miles - not the best of circumstances but they did their best nevertheless.

John O.



Military innovation

Reinventing the army

The US Army's chief of staff has ideas on the fighting force of the future

RANDY GEORGE joined the US Army in 1988. It had overhauled itself after the trauma of Vietnam. It had written a new doctrine, known as AirLand Battle, to defeat the Soviet Union in a war in Europe. And a few years later it would smash the Iraqi army in the first Gulf war, a conflict in which General George, as he is today, served as a young lieutenant. He is now in charge of that same army, and wants to reinvent it, continuously, for a new age.

General George took over as army chief of staff a year ago. His priority, he tells *The Economist*, is building "lethal and cohesive" teams. Everything else is secondary. The flab built up during the war on terror is being trimmed. Brigades have turned in up to 700 excess vehicles, he says. The remaining ones are being serviced less often, leaving more time and resources for training. Army ammunition factories are working at full pelt. They produced 40,000 rounds of 155mm artillery shells in August, up by one-third from February, and are "nearing" 50,000 per month. That is expected to double in a year's time. Manpower is improving, too. After years of missing its recruitment targets, the army last month exceeded its goal for the year by 10,000 soldiers.

A much bigger task still lies ahead. The army has two big challenges. One is where to look. America's national defence strategy is explicit: China is the priority. But any war over Taiwan would involve mainly air and naval forces, and the army main-

tains a big presence in Europe. "AirLand Battle was intellectually coherent because we had one enemy," says John Nagl, a professor at the US Army War College in Pennsylvania, "but a China-focused army looks different from a Russia-focused army—plus the Middle East is a mess."

The other is technology. The war in Ukraine has shown that weapons may work well for a while until the enemy adapts. America's GPS-guided shells have been blunted by Russian jamming. Drones' software and sensors need updating every six to 12 weeks to stay effective. "We're fully aware of how much the world has changed just over the last couple years, with commercial tech," says General George.

One scheme to tackle both challenges is what the army calls "transforming in contact". It has picked three brigades—the 2nd Brigade of the 101st Airborne Division in Kentucky, the Pacific-focused 2nd Brigade of the 25th Infantry Division in Alaska and the 3rd Brigade of the 10th Mountain Division in Germany—to serve as laboratories for innovation. The trio receive the newest kit and tech. They test it on exercises and give feedback on what works.

In the past, says Alex Miller, the army's chief technology officer, the army would set "gold-plated" requirements—insisting that a drone be able to survive in freezing and boiling conditions, say—and push this "over-engineered" kit down to every unit over a glacial three to seven years. The ex-

perimental brigades can instead quickly buy things that suit their environment. Robots that work well in Louisiana, notes Mr Miller, might struggle in the Pacific. "It's a big difference to actually do this on the ground, inside formations," says General George. "We have users, developers and testers that are all there together."

The days of picking one company—usually one of a handful of arms behemoths—and asking it to produce something for a decade or two are gone, he says. The future is "modular" systems, such as platforms whose sensors (cameras, radars or antennae) can be swapped out frequently, with a greater reliance on consumer tech. A new infantry squad vehicle, a jeep-like contraption, embodies this thinking. Built by General Motors, it is based on the Chevrolet Colorado and 90% of its components are commercially available.

Documents setting out what a new weapon or system has to do have typically been long tomes, page after page of specifications that quickly go out of date. A new one for the army's next command-and-control system amounts to a bureaucratic revolution: just five pages. General George recalls an instance where the army was told it would take six to eight months to get 20 new coolant-pump covers for Bradley armoured vehicles. It was able to 3D print them all in less than an hour—at 16 cents each. That capability is being pushed down to formations as small as brigades.

Despite all this, army insiders acknowledge that the present system is broken, constrained by suffocating Pentagon rules and rigid legislation. Take the example of first-person-view (FPV) drones, small, short-range attack drones used in massive quantities by both Russia and Ukraine to good effect. Why has the US Army been slow to produce these? Mr Miller notes that American law prohibits the Pentagon from buying components made in China. That has limited the supply of motors, speed controllers, antennae and video transceivers. The army has turned to American and European suppliers—the 82nd Airborne Division is cobbling together FPVs with legally compliant parts—but production is puny. "We're talking handfuls," he says.

The scale of the task

But how to ramp up? The army has 59 brigade combat teams; experimenting in a few of them only goes so far. Though the scheme will soon expand, General George accepts that his "ultimate grading" will be whether he can scale the new processes and kit across the whole army. Colonel David Butler, his spokesman, points to the example of 1940 to suggest that a little reform can go a long way. "We shouldn't forget that Germany only transformed one-third of their army," he says, "enabling them to take over most of Europe." ■

