The Army's Project Convergence

What Is the Army's Project Convergence?

Project Convergence is what the Army calls a "campaign of learning," designed to further integrate the Army into the Joint Force. It is how the Army intends to play a role in Joint All Domain Command and Control (JADC2), the Department of Defense's (DOD's) plan to connect sensors and weapon systems from all the military services—Air Force, Army, Marine Corps, Navy, and Space Force—as well as Special Operations Forces (SOF), into a single network which, theoretically, could prove faster and more effective in responding to threats from peer competitors.

Designed around five core elements—soldiers, weapons systems, command and control, information, and terrain—Army Futures Command (AFC) plans to run Project Convergence on an annual basis. The Army intends to conduct experiments with technology, equipment, and solicit soldier feedback throughout the year, culminating in an annual exercise or demonstration. In basic terms, the Army reportedly wants to "take the service's big ideas for future warfare and test them in the real world. The Army wants to figure out what works and what needs fixing—and figure that out as early as possible, when it's much cheaper to make changes."

Project Convergence 2020 (PC20)

PC20 took place at Yuma Proving Ground, Arizona between August 11th and September 1st 2020 and involved about 500 personnel. PC20 was intended to provide information to support decisions to:

- Change how the Army fights by shaping how it organizes for combat;

- Highlight opportunities to optimize operational processes;

- Evolve how the Army visualizes, describes, decides, and acts on enemy threats; and

- Build soldier and leader trust in emergent technologies.

PC20 concentrated on what the Army calls the "close fight" by integrating new enabling technologies at the lowest operational level so tactical networks could facilitate faster decisions. At the unit level, PC20 focused on Brigade Combat Teams (BCT), Combat Aviation Brigades (CAB), and Expeditionary Signal Battalion-Enhanced (ESB-E). At the system level, PC20 involved the Army's MQ 1C Grey Eagle unmanned aerial vehicle (UAV), the Air Launched Effects (ALE)—a multi-purpose helicopter- launched system—and the tactical network—command, control, communications, intelligence, and computer systems used by the Army in combat.

Figure 1. Representative Exercise Operational Scenario
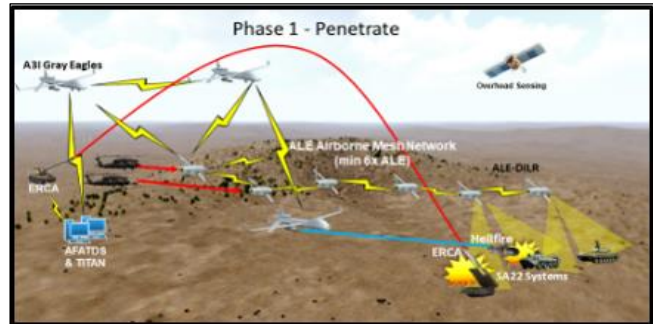
Source: From Army Briefing provided to CRS dated September 10, 2020.

One of PC20's experiments reportedly included using low-earth orbit satellites and Grey Eagle UAVs to perform sensing for air targets and a ground system to detect a ground target. Data from the two systems was passed back to an organization at Joint Base Lewis McChord, Washington, where the target was processed.

The data was then passed back to Yuma Proving Ground, Arizona, to a system to engage the target—either a self-propelled artillery system such as the Extended Range Cannon Artillery (ERCA) system currently under development, a Grey Eagle, or another ground platform. This entire sequence was supposedly accomplished within 20 seconds.

What Is Anti-Access/ Area Denial (A2/AD)?

Anti-Access is defined as any action, activity, or capability, usually long-range, designed to prevent an advancing military force from entering an operational area. Area Denial is defined as action, activity, or capability, usually short-range, designed to limit an adversarial force's freedom of action within an operational area. In terms of weapon systems, threat A2/AD defenses are envisioned of being composed of layered and integrated long-range precision-strike systems, littoral anti-ship capabilities, air defenses, and long-range artillery and rocket systems.

Project Convergence 2021 and 2022 (PC21 and PC22)

Project Convergence 2021(PC21)

While other supporting exercises and experiments were conducted in 2021, PC21's main series of live-fire events took place October 12–November 10, 2021, at a number of installations located in the United States. PC 21 involved approximately 7,000 personnel, including 900 data

collectors, and included experiments involving about 107 different technologies.

Some of the Army's objectives during PC21 included identifying technologies to enable the Joint Force to penetrate enemy's anti-access, aerial-denial (A2/AD) capabilities as well as determining which emerging technologies were needed to execute the Joint All-Domain Operations concept. The Army also examined "ways to incorporate artificial intelligence (AI), machine learning, autonomy, robotics, and common data standards and architectures to more quickly make decisions across multiple domains of operations."

PC21 included units such as the Army's Multi-Domain Task Force (MDTF) based at Joint Base Lewis-McChord in Washington and elements from the Fort Bragg, North Carolina-based 82nd Airborne Division. Reportedly major capabilities from the other services were tested, including the Marine's Ground/Air Task-Oriented Radar (GATOR), the Navy's SM-6 missile, and an Air Force F-35 fighter and B-1 bomber.

The Army examined seven scenarios during PC21:

- **First Scenario:** Test joint all-domain situational awareness and incorporate space sensors in low earth orbit;

- **Second Scenario:** Conduct a joint air-and-missile defense engagement in response to an enemy missile attack;

- **Third Scenario:** Conduct a joint fires operation as the force transitions from crisis to conflict;

- **Fourth Scenario:** Conduct a semiautonomous resupply mission;

- **Fifth Scenario:** Conduct an AI and autonomy-enabled reconnaissance mission;

- **Sixth Scenario:** Conduct an air assault mission employing the Integrated Visual Augmentation System (IVAS)—a heads-up display worn by soldiers that provides enhanced situational awareness; and

- **Seventh Scenario:** Conduct a mounted AI-enabled attack.

Project Convergence 2022 (PC22)
In PC22, the Army plans to include allies and partners, focusing on closes allies and security partners such as Australia, Canada, New Zealand, and the United Kingdom. The project is to expand to the Combined Joint Task Force (CJTF) level and bring more technologies and assets to the battlefield. The goal is to exercise from competition through conflict and return to competition levels of conflict. In addition to the CJTF (Corps and Division-level), the Army also plans to include a Multi-Domain Task Force (MDTF), a number of Brigade Combat Teams (BCTs), and Allied and Partner Mission Command Elements in PC22.

PC22 is planned to incorporate two scenarios reflecting selected priorities of two Combatant Commands—U.S. European Command (USEUCOM) and U.S. Indo-Pacific Command (USINDOPACOM). Objectives for these scenarios include

- establishing an integrated air and missile defense network;

- defeating anti-access and area denial defenses;

- examining methods to achieve positions of relative advantage over potential adversaries;

- assessing existing and emerging systems to defeat adversaries' abilities to conduct complex, large-scale attacks;

- examining authorities and policies to fight cohesively as a joint (with other services) and combined (with allies and partners) force; and

- examining sustainment through predictive logistics in a widely dispersed and contested area during large-scale combat operations.

Potential Issues for Congress

Impact of Ukrainian Conflict on PC22 and Future PCs
The ongoing conflict in Ukraine arguably offers a wide range of insights into Russia's capability to conduct its own "multi-domain operations" against not only the United States but also NATO allies and partners. Are any of the emerging insights from Ukraine being incorporated into PC22 scenarios? If so, what emerging insights will be incorporated into PC22 and, if not, why is the Army not considering insights as part of PC22 scenarios? Likewise, have any emerging insights from the Ukrainian conflict "validated" observations/findings from PC20 and PC21?

Plans for PC Beyond PC22?
With Army leadership referring to PC as an annual event, what are the Army's plans for PC for 2023 and beyond? Are there plans to incorporate future PCs into the Army's Future Year Defense Plan (FYDP) to facilitate greater congressional oversight and budget planning?

Additional References
- CRS Report R46725, *Joint All-Domain Command and Control: Background and Issues for Congress*, by John R. Hoehn
- CRS In Focus IF11797, *The Army's Multi-Domain Task Force (MDTF)*, by Andrew Feickert

Andrew Feickert, Specialist in Military Ground Forces

Disclaimer

This document was prepared by the Congressional Research Service (CRS). CRS serves as nonpartisan shared staff to congressional committees and Members of Congress. It operates solely at the behest of and under the direction of Congress. Information in a CRS Report should not be relied upon for purposes other than public understanding of information that has been provided by CRS to Members of Congress in connection with CRS's institutional role. CRS Reports, as a work of the United States Government, are not subject to copyright protection in the United States. Any CRS Report may be reproduced and distributed in its entirety without permission from CRS. However, as a CRS Report may include copyrighted images or material from a third party, you may need to obtain the permission of the copyright holder if you wish to copy or otherwise use copyrighted material.