The U.S. Army Approach to its New Tiltrotor Aircraft

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CHAPTER 1

LAUNCHING A NEW MANNED AIR SYSTEM AT THE DAWN OF AN AGE OF AUTONOMOUS SYSTEMS

The Future Long-Range Assault Aircraft (FLRAA) or the Army's new tiltrotor aircraft is being designed to operate in a new world of combat, namely one in which autonomous systems will become significant players.

I would argue indeed that when introducing new manned systems now and in the future, it is increasingly important to do so with consideration of how they can work offensive and defensive operations in a world where autonomous systems will become ever more prevalent and prominent.

What is impressive about the Army's standup of their new tiltrotor aircraft is how they are doing so with core consideration of how the concepts of operations of assault operations will change with the combined arms approach which is inherent in working with and defending against autonomous systems.

A panel held at the recent Association of the United States Army (AUSA) convention held in Washington DC. discussed the way ahead with FLRAA.

This panel was hosted by *Defense News* which provided a video of

the panel which provides readers the opportunity to watch the discussion by senior Army leaders.[1]

The members of the panel were:

- Major General Michael McCurry: Chief of Staff Futures Command
- Brigadier General Cain Baker: Director of Future Vertical Lift Cross-Functional Team
- Colonel Jeffrey Poquette: Project Manager for the Future Long-Range Assault Aircraft (FLRAA)
- Dr. James Kirsch: Director of Combat Capabilities Expand Aviation and Missile Center.

The panel started with a discussion of the changing military context into which the FLRAA is being introduced. The conflict in Ukraine highlights the rapid pace of technological advancement and the need for agile and adaptable military capabilities. This necessitates a shift away from traditional platform-centric thinking towards a system-of-systems approach, prioritizing formations of capabilities.

The FLRAA program is a significant investment aimed at transforming Army aviation. It prioritizes speed and range and leveraging digital engineering for rapid design and development. Soldier feedback is actively integrated into the design process, ensuring the aircraft meets operational needs.

Yet at the same time, the Army recognizes the crucial role of unmanned and autonomous systems, particularly launched effects (ULEs), in future warfare. These systems enhance situational awareness, provide stand-off capabilities, and contribute to holistic team survivability. Ongoing experimentation and exercises like the Army Futures Command's (AFC) Future Vertical Lift (FVL) Cross-Functional Team (CFT)'s Experimental Demonstration Gateway Event (EDGE) and Project Convergence are informing doctrine, organization, and training for effective ULE employment.[2]

But how to do both, launch a new manned platform and integrate ULEs?

According to Major General Michael McCurry: *We aim to capitalize on the strengths of both without sacrificing humans for first contact, focusing on what machines can do best and what humans do best. The most important letter in HMI is the "F" for formation. We're focused on formations of capability, which is a bit different from others around the world that want to employ a singular material item on the battlefield. We're interested in building formations and capabilities at echelon. A great mentor, retired General David Perkins, once told me to quit focusing on one thing and see how it fits into the bigger picture. So, this formation-based approach is critical.*

In other words, the focus is upon leveraging what a new platform like the FLRAA can provide, namely speed and range, but working in what I have called combat clusters to leverage what autonomous systems can deliver, or in the words of the panel how ULE employment working with FLRAA shapes the concepts of operations of operational units in the future force.

As Colonel Jeffrey Poquette underscored: *Two things about FLRAA that are most important to the Army are: go twice as far, twice as fast. We beat that drum all the time. The other part that General Baker highlighted is that if we get those two things right, there's no doubt in my mind that this transformational capability will live on for many decades to come.*

But how to design a platform which has such inherent capabilities but one able to adopt to a world where autonomous systems will be increasingly significant?

CHAPTER 2
SHAPING A WAY AHEAD

FLRAA is coming at the dawn of the age of autonomous systems. It is being crafted as a manned program to operate in the con-ops of formations that will operate in the world of combined arms operations of manned systems working with autonomous ones.

The Army approach encompasses the following considerations: Focus on the Platform; focus on the payloads; focus on the con-ops of the formation; focus on the training with the resultant capability to work in flexible combat clusters.

Based on the discussion of the panel at AUSA which focused on the future of vertical lift, one can identify how the Army is planning to deal with each of these aspects of the way ahead for the FLRAA.

FOCUS ON THE PLATFORM

The Army is leveraging decades of experience of the USMC working with tiltrotor aircraft. This gives them a significant edge up with its new tiltrotor aircraft compared to the situation facing the Marines who blazed the path pioneering use of this new technology when

they first took it to Iraq in 2007. The Army is leveraging the USMC experience in terms of impact on con-ops, training, maintenance, and the entire experience of the tiltrotor enterprise into which they now are writing a new chapter.

As Colonel Jeffrey Poquette, project manager for the future long-range assault aircraft, noted: *I know there is a plan to familiarize Army rotorcraft pilots. We have the V-22. The V-22 is a tiltrotor, so I've already started meeting a couple of Army aviators who have experience in the V-22. I just hired an experimental test pilot who is qualified in the V-22, so we're starting to build up the familiarity with a technology that the Army has not really used before.*

There are a number of design aspects to the new tiltrotor which will enhance maintainability and performance of the aircraft, but it should be remembered that the V-22 is a bigger aircraft and one which has advantages due to its size as well.

But one of the key design features of FLRAA being crafted to meet the challenge of working with autonomous systems and the correlated systems onboard the aircraft to manage them is the use of a digital backbone designed to facilitate rapid upgrades.

This encompasses the hardware – the computerization – as well as the MOSA software. As Poquette noted*: MOSA, like I said, is such a big deal; I can't not mention it several times today. The digital backbone that enables MOSA didn't exist on Valor, right? So that's a significant part.*

He added: *And if I could add, as an integrator of aviation systems, I work with counterparts in other PEOs whose job is to provide me the systems. We can't discount the importance of MOSA to integrating ASC quickly.*

Keeping pace with emerging threats is vital. ASC is one of the harder things to integrate with an aircraft. MOSA and the ability to leverage the digital backbone, leverage the standards that are open and available to the industry. Those standards, which are government-owned, are heavily informed by the architecture working group.

I envision a future where as soon as a threat emerges, the necessary

survivability equipment is ready for integration. The challenge lies not just in developing this technology but in ensuring it works effectively on the aircraft, which is where MOSA will take those timelines down a tremendous amount which is an important part of enhancing aircraft survivability.

The aircraft is being built with a digital engineering approach which allows as well significant ways to enhance design to production to upgrade capabilities as well. Given the focus on working the manned-autonomous systems effort in a combined arms approach the core point is really that the aircraft has a digital backbone focused on rapid upgrades through the use of the Modular Open Systems Approach or MOSA software as a gateway to rapid upgrades in payloads and systems.[1]

FOCUS ON THE PAYLOADS

Acquiring and integrating into the force of autonomous systems is very different from acquiring manned platforms. They are payloads carried by an autonomous vehicle (ground, air or maritime) and are focused primarily on a singular mission purpose or payload.

As Marcus Hellyer, the noted Australian strategist, put it in a recent interview I did with him in Canberra, Australia: *You can't look at autonomous systems as simply an unmanned version of a traditional platform. Everyone says that but I don't think they really think through what that means. And what it does mean is you don't want it to do everything that a traditional platform does with the autonomous system, because if you try and design it to do so, it's going to be just as complex as a manned system. This in turn means that is going to take just as long to design and it's going to cost just as much as a manned platform. There will be no savings in terms of time, money and people.*

In other words, the key point to underscore is this: Start simple, design autonomous systems to do one thing, and once they can do one thing effectively, and you work from there as the operators use them and input their demands into this process.

In the discussions by the panel of autonomous systems, it is apparent that they get Hellyer's points. For example, as Dr. Kirsch, Director of Combat Capabilities, underscored: *Our sister centers focus on some of the payloads, the different sensors, electronic warfare effects, and lethal effects. Our primary focus has been on behaviors and specifically how to get these launched effects to collaborate to accomplish our mission.*

We've done a lot of work showing how we can use launched effects with similar sensors for search areas or reconnaissance. In the next month, we're planning a capstone demonstration using a team-of-teams approach, where we have one operator managing multiple unmanned systems or launched effects with different capabilities. Some might have electro-optical/infrared sensors, some might be decoys, and some might have lethal effects. The operator will assign missions and decide when one sensor sees something and another needs to verify it. Ultimately, they'll pass that information back to a single operator, who will decide whether to prosecute the target or not.

This involves a lot of collaborative behavior between the different platforms, allowing the operator to focus on their essential tasks while the autonomy of the launched effects manages the complexities of dividing the problem.

FOCUS ON THE CON-OPS OF THE FORMATION

Several speakers on the panel emphasized that the new manned platform would be working with "launched effects" which refers to either autonomous systems or loitering munitions to create the effects which an Army formation would be oriented to create.

As Major General Michael McCurry, Chief of Staff U.S. ArmyFutures Command. added: *From a tactical and operational perspective, certain mission sets align more naturally with autonomy. If we're putting 100 Rangers on the objective, there's likely someone flying that platform. Conversely, for repetitive tasks like logistics, where operations need to occur over extended periods, those are areas where we could see more rapid applications of autonomy.*

There are still considerations as we define behaviors. There's a natural alignment of certain mission sets. The other thing I would say about autonomy is that our focus is on protecting the humans. I talked about not sacrificing humans for first contact. Imagine a young Warrant Officer in the front seat of an AH-64 Apache with all that data coming at them. We can use different levels of autonomy to offload and untask saturate some of that workload, better protecting them and prosecute the mission more efficiently at the same time.

Or as Colonel Jeffrey Poquette commented: *And so, I would say from an S&T perspective, when you take into account the things that General McCurry was talking about—particularly in terms of the congested and contested airspace— as we look at launch effects, the sensors for launch effects, and autonomy, we're trying to use those capabilities to provide better situational awareness. This way, we can perform sense-and-avoid maneuvers so that we don't run into each other in that contested airspace.*

As we push our launched effects further out in front and conduct that scout role that, in previous years, we handled with manned assets, we need to understand what behaviors are required and what sensors are necessary to provide the same kind of awareness of what's out in front of us. So that, as we move manned formations forward, we know what we're about to face.

Army Brigadier General Cain Baker, Director of Future Vertical Lift Cross-Functional Team, highlighted the importance of the con-ops for formations as the shaping function for the kind of combined arms operations that FLRAA will do with autonomous systems for the future force:

Generally, we're taking steps with this on the launched effects side for the Army. Last year, when we updated the Concept Document (CD), we went with both aerial launch capability and ground launch capability. So we're working through that now to determine the right mix of capabilities —whether launched at the formation level or employed from the air.

A lot of that involves ongoing studies. We have an active study looking at that mix, and we're also incorporating simulations. We've always had

high-fidelity simulations, but now we're actually putting it into our formation exercises. Additionally, we're also testing in the field. We just finished Edge, and I can discuss that if you like.

Bringing formations out to Edge and then subsequently to Project Convergence helps us inform the DOTMLPF (Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities) requirements. In the next year, we're also working closely with David's team and PM UAS on user demonstrations with launched effects inside formations, which will inform what type of formations we need and what employment capabilities they require.

This speaks to a broader portion that General McCurry mentioned earlier about the system-of-systems approach. Launched effects interact with our ground forces, our aerial assets, and our Human-Machine Interface (HMI) on the ground, so there's a lot of learning going on here, and we're excited to get this out to the field.

FOCUS ON THE TRAINING

The speakers discussed the importance of training. From the standpoint of operational safety, training air crews is crucial. The experience with the Osprey underscores the importance of pilot training as 90% of crashes have been caused by pilot error.

Major General Michael McCurry emphasized:

No loss in training is acceptable. Every loss of a soldier is tragic, and when that happens, we do a deep investigation to determine root causes and implement corrective actions.

In 2023, during my time overseeing aviation, we conducted an aviation stand-down focused on a bottom-up feedback exercise where we had units provide feedback all the way up. We collected it and backbriefed the Vice Chief and the Chief at the time, then went out to brief all the division and corps commanders in one session on what we found.

That's where we discovered that, as we transitioned from the way we had been flying in Iraq and Afghanistan—higher above the terrain, with not a lot of threat to consider—to a more high-risk environment, we were

overdriving our capabilities a little bit. Aviators were pushing themselves into situations they weren't yet prepared for…

So, in aviation, we had to back up in 2023 and focus on some fundamentals, telling people it's okay to say, "I need more training before I take that next step."

We took action to reorient the Department of Evaluation and Standardization at Fort Novosel to assist the CABs with training shortfalls. We simplified some maneuvers, particularly in the survivability realm, and focused on retaining those mid-grade warrant officers over time…

But training also refers to learning how to operate in formations or what I call combat clusters in which combined arms operations are conducted with manned and autonomous systems.

Major General Michael McCurry put it this way:

When we're working on unmanned systems and launched effects, there are really three interrelated time periods. You've heard a lot about transforming contact, and General Schlosser mentioned earlier that soldiers figure out how to use things differently than engineers and designers intended. Transforming contact means we're giving some of these systems to engage soldiers so they can begin experimenting with them, informing organizational concepts, future doctrine, and training in the near term.

These periods are interrelated: transforming contact informs the traditional deliberate transformation period and the program objective memorandum (POM). All of that is also being informed by the concept work that the Capability Command is doing. These three interrelated time periods—transforming contact, deliberate transformation, and concept-informed transformation—help us tie the picture together in a space that's moving quickly.

In short, one cannot understand the process of developing the Army's new tiltrotor aircraft into the force without understanding the impact of the age of autonomous systems into which it will enter the force, one which will do combined arms operations with synergy between manned and autonomous systems.

CHAPTER 3

THE WAY AHEAD WITH FLRAA: INSIGHTS FROM AUSA 2024

The panel on future of vertical lift and interviews conducted by the press during the recent AUSA conference provided further insights regarding the FLRAA program and the way ahead. The conference was held from the 14-16 October in Washington D.C.

Let us address first the schedule indicated by these sources plus information associated with achieving Milestone B.

Milestone B was achieved in the summer of 2024. This is what the PEO of Aviation for the U.S. Army wrote about achieving this milestone and the next phase of development:

REDSTONE ARSENAL, Ala. — The Army's Future Vertical Lift program took a major step forward as the Future Long Range Assault Aircraft, or FLRAA, program entered the next major phase of development when the Army announced the approval of the FLRAA Milestone B Acquisition Decision Memorandum on August 2, 2024.

The decision came after the successful FLRAA preliminary design review in April and a meeting of the Army Systems Acquisition Review Council in June. After reviewing FLRAA affordability, technological viability, threat projections and security, engineering, manufacturing, sustain-

ment and cost risks, the ASARC confirmed that all sources of program risk have been adequately addressed for this phase of the program. Milestone B allows the Army to exercise contract options and continues development of the aircraft as it now enters the engineering and manufacturing development phase.

"This an important step for FLRAA and demonstrates the Army's commitment to our highest aviation modernization priority," said the Army acquisition executive, the Honorable Douglas R. Bush. "FLRAA will provide assault and MEDEVAC capabilities for the future Army, adding significantly increased speed, range and endurance."

"This is an exciting day for the Army ... and more importantly for our Soldiers. The FLRAA provides truly transformational capability to Army aviators as we uphold the sacred trust with the Soldier on the ground," said Maj. Gen. Michael C. McCurry, 17th chief of the U.S. Army Aviation Branch. "Future battlefields require expanded maneuver, the ability to sustain and provide command and control across vast distances, and of course, evacuate our wounded. All of these apply to both conventional and special operations forces. With roughly twice the range and twice the speed, FLRAA brings unmatched combat capability to the joint force."

The Army awarded the FLRAA Weapon System Development contract to Bell Textron on December 5, 2022, and it includes nine options. The Milestone B allows the Army to exercise the first option which includes detailed aircraft design and build of six prototype aircraft. The Army is planning for the first FLRAA flight in 2026 with low-rate initial production scheduled to begin in 2028 and initial fielding activity in 2030. The Army will continue to review and refine the schedule as necessary based on the contract award and the latest program activities.

"PM FLRAA and our Team of Teams across the aviation enterprise are working hard to make sure that we get it right," said Brig. Gen. David Phillips, Program Executive Officer, Aviation. "We will deliver a next generation combat capability that meets the Army's goals for affordability, survivability, maintainability, reliability and safety."

"The FLRAA Milestone B decision is another successful step of a deliberate modernization effort by the Army," said Brig. Gen. Cain Baker,

director for the Future Vertical Lift Cross Functional Team. "The many stakeholders, including academia and industry, have worked hard to ensure rigorous technology development and demonstration and have informed FLRAA requirements and affordability. FLRAA's speed, reach and survivability will be key to transforming U.S. Army maneuver."

"I am very proud of the FLRAA team. We've maintained a deliberate balance between sustaining program momentum while maintaining technical and acquisition rigor," said Col. Jeffrey Poquette, FLRAA project manager. "Using digital engineering as a key part of our 'go slow to go fast' approach has helped to accelerate the program by investing in requirements development up front."

FLRAA will provide transformational capability for ground forces and aircrews with speed, range, and surprise to present multiple dilemmas to the enemy. It will expand the depth of the battlefield, extending reach to conduct air assault missions from relative sanctuary while enabling us to rapidly exploit freedom of maneuver to converge ground forces through decentralized operations at extended distances. FLRAA's inherent reach and standoff capabilities will ensure mission success through tactical maneuver at operational and strategic distances.

As the Army transforms to meet an uncertain future, FLRAA is one of many modernized capabilities that will help ensure the Army of 2030 and beyond is ready to win when the nation calls.[1]

The next phase was described by one source after the AUSA conference as follows:

Bell is to deliver two virtual FLRAA prototypes – exact digital replications of what Bell intends to build to the army in February 2025. One copy is to be sent to Fort Novosel, where the army's Aviation Center of Excellence will examine the design. Another copy is headed to Redstone Arsenal for analysis by Army Materiel Command. The virtual prototypes are also intended to fulfil a Middle Tier Acquisition requirement to deliver working prototypes to the field before transitioning to a programme of record, which cannot be done with a complex aircraft.[2]

Another source added:

A so-called Critical Design Review (CDR) is expected to occur next

summer ahead of the planned delivery of the first of six FLRAA prototypes in 2026. The program schedule as it exists now sees low-rate initial production of the tiltrotors starting in 2028 and units beginning to use them operationally in 2030.[3]

What underlies progress to the next phase is the design and development approach being followed by Bell and the Army with regard to the platform. Digital engineering is how the platform is being design which allows for a more rapid and effective development process which changes how requirements are shaped in the process of the build of the aircraft.

The panel on the future of vertical life explicitly discussed this process.

Colonel Jeffrey Poquette, project manager for the future long-range assault aircraft described the approach as follows:

So I'll start with the FLRAA specifics, because as General Schlosser said, we are kind of the pilot case for digital engineering. We like to say that the program is born digital—a cleansheet design, the first time it's been done in forever. We get a lot of extra homework from the Department of Defense, the Army, and even the GAO to talk about the benefits of digital engineering.

Digital engineering is a large umbrella; there's a lot that falls under it. Model-based systems engineering falls under that umbrella. I'll focus on the digital environment.

The digital environment is a collaborative workspace. Let me talk about how we used to do Previously, I would hand over words in the requirements document and expect Bell to go do some things and send me some engineering artifacts back. They would spend months doing that, and we would spend months reviewing it. If we found something wrong, we'd send it back, and we would iterate—that takes time.

In the digital environment, we are working in real time with Bell every day, looking at what they're doing, and we are course-correcting them as needed. We catch issues right after the Preliminary Design Review (PDR). When they submitted their model of the system after PDR, we turned around about 3,000 things we needed them to address within two weeks.

These are not big things; they are just items to ensure we get it right. I want to make clear that that's the goodness of digital engineering—finding those issues now and ensuring we don't build the wrong thing is a testament to the power of digital engineering.

So you asked how it makes for a smooth program. I'm not sure if it makes it smooth; what it does is make it faster. It allows us to iterate quicker and collaborate in a way that was just unheard of in the past. Another thing that we do, like digital model-based systems engineering, is that it's all done in the model. The likelihood of missing a requirement that General Baker handed to me is almost zero because it's not just words on a page; it's in the systems engineering model.

So we're really proud of it. We talk a lot about it, and the Army is going to continue to emulate the things that we've done, get lessons learned, and develop weapon systems this way into the future.

Major General Michael McCurry, Chief of Staff Futures Command added:

I'll jump in from the Futures Command perspective. Digital engineering brings everything that JeE talked about. You heard General Schlosser say earlier that FLRAA is one of the two premier systems we're doing digital engineering with in the Army; the other is ground combat vehicles.

So what does that do? You heard yesterday our chief in his address that's now on lunch say, "Step on the gas; we've got to do things faster." He also talked about process innovation. Well, this is an example of process innovation, and we have to continue to innovate our processes inside the Army as well.

Dr. James Kirsch, Director of the Army's Aviation and Missile Center added:

I'll add a little more to that, because we talk a lot about going fast, and a lot of times we're talking about going fast in the design and development phase. But there's another piece of that before we can actually hand kits to soldiers, and that's getting through the material release process, which includes airworthiness for aircraft as well. That generally happens at the end. We get a lot of documents and a lot of data from the PM as they're

finishing up their product, and then we spend a lot of time evaluating and determining whether or not we think this aircraft is safe to fly.

Now, in this digital environment, we're involved in the process from the very beginning, and we can watch those things develop over time. We have much more access earlier in the program to the data, which should help us get to those pieces of the process—the airworthiness releases, the safety releases, and the material release process—that actually allow us to get that kit they've developed into the hands of our fighters that much quicker.

Digital engineering allows the delivery as mentioned about of a virtual prototype in 2026 as a key deliverable.

Colonel Jeffrey Poquette discussed this aspect of the program as follows:

The other thing I'd like to highlight is that this is a kind of a first for aviation, as we're delivering a virtual prototype. Our virtual prototype is a simulator of sorts. That virtual prototype will be put down at Fort Novosel and one up in Redstone, modeling the flight dynamics of the aircraft, with a lot of real hardware and some simulated hardware. That will deliver in February, which is the first major material delivery for the program.

With that virtual prototype, we'll put one down at Fort Novosel and one up in Redstone. It will inform doctrine and training, expose Army aviators to tilt-rotor technology—which they haven't experienced before—and it will be a design tool for Bell and the program office to iterate on and get to the point where we can fly. So, the first prototype delivers in 2026, and flying will occur sometime shortly after that.

A key aspect of the program is engagement by the operational force in becoming familiar with the platform and how that platform will impact Army concepts of operations.

Familiarization was highlighted by Colonel Poquette during the panel discussion.

We're located in Huntsville, AL. My initial thought was to let's go to the 101st; they're right up the road. I had a conversation with General Baker, a former 25th commander and deputy commanding general there. He said, "Why don't we go to the place that we really think this aircraft

matters?" It was a perfect idea. We executed it, and it took an extra month to get all the logistics in place. We sent the Bell team and my human systems team out there to bring the mock-up to receive input from the 25th.

The 25th CAB took place with the guys who could potentially fly it, and the combat brigades out there came across. We spent a week out there with them, iterating on the two configurations we wanted to test. We started with one configuration that we thought we were going to choose, with the seat configuration. We ran the soldiers through, you know, without any combat gear. Then we added weapons, then we added body armor, and then we added MOPP gear.

We timed them. The people that do this kind of human systems science are technical experts. We measured every soldier with giant human-sized calipers. We wanted to ensure we could take care of the 5th percentile soldier and the 95th percentile soldier. We did that in two configurations. What we found out is that the soldiers really liked the second configuration better.

Now that they liked it, why did they like it? It was more comfortable, it was faster, and they weren't tripping over each other. We got feedback on the cockpit; the cockpit was mocked up with a lot of 3D-printed controls and that kind of thing. The weapon was different. When we were in location, we had the crew chief seat oriented differently.

So we took all this into account and we ran that combat speed. Even as the soldiers came out, they ran out and went into the prone with their weapon. It was as tactical as we could make it while getting the information that we needed.

We then take the soldiers after they spend a week doing this, and I will say this: it sounds super cool, but it's not a lot of fun for the soldiers. I mean, being in MOPP gear and body armor, getting on and off the aircraft multiple times—it's challenging. So I made a very special point to pull all these soldiers in and said, "Look, I know this isn't fun, but the information and insight that you are providing to us is invaluable, and it will be incorporated. You are part of something historic—Army acquisition history for Army aviation. One day, when you fly this, or your children fly this, or you

see this flying above you while you're on your front porch as a grandfather or grandmother, you're going to know that you had input into this aircraft." That really resonated with them.

And the Army is working the impact on con-ops challenge now as well in advance of receiving an operational aircraft.

As Audrey Decker noted in *Defense One* piece published on 16 October 2024:

As the Army awaits the arrival of its high-speed, high-capacity tiltrotors in 2030, it is already practicing the new operating concept that they will enable. The idea behind "large-scale, long-range air assault," or L2A2, is to "deliver one brigade combat team in one period of darkness, over 500 miles, arriving behind enemy lines, and able to conduct sustained combat operations," said Maj. Gen. Brett Sylvia, who leads the 101st Airborne Division. And the service can't do this with the platforms it has today, he said.

Sylvia's team has started working on the new tactics, techniques, and procedures and has practiced the concept four times in live demos over the last year, and multiple times in simulation. In the simulation, replacing UH-60s with FLRAA gave the combat aviation brigade "four times the amount of heavy-lift aircraft than what I have today," Sylvia said.

In the most recent test, the unit used its existing helicopters to move a brigade combat team about 570 miles, from Fort Campbell on the Kentucky-Tennessee border to Fort Johnson in Louisiana. The movement required three nights, two mission support sites, and six forward arming-and-refueling points. But in a simulation that used FLRAAs, the same mission required half the sustainment and security footprint--and just one night, Sylvia said.

"We are building, over the course of the next few years, this air assault combat aviation brigade. We are doing the things in order to be able to build the foundation so that all we have to do is just receive the aircraft and we'll be ready to execute," he said.[4]

Notably, the arrival of a virtual prototype allows for the Army to augment their training for the future fight enabled by the new aircraft as well.

As Colonel Poquette underscored::

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NOTES

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1. https://www.defensenews.com/video/2024/10/16/ausa-future-vertical-lift/
2. https://www.army.mil/article/280035/edge_of_innovation_edge_24_concludes_at_u_s_army_yuma_proving_ground; https://www.defense.gov/Spotlights/Project-Convergence-Capstone-4/

2. SHAPING A WAY AHEAD

1. https://breakingdefense.com/2024/10/mosa-a-winning-strategy-for-flraa-and-army-current-fleet-modernization/

3. THE WAY AHEAD WITH FLRAA: INSIGHTS FROM AUSA 2024

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