PENTAGON: BUY COMMERCIAL ALREADY

By Pete Modigliani

Traditionally, when the Department of Defense (DoD) recognizes a major capability need, it spends years on the requirements, budget, and acquisition processes to field a system over a decade later. But with the rapidly evolving mission space and the accelerated pace of technological change, this timeline erodes our competitive advantage to the determent of our national security. Further, private sector innovation is stymied without a clear path for DoD to adopt what it hasn't defined in specific detail.

Opportunities exist now to make a hard pivot to a new model which incentivizes innovation; encourages and engages a broad range of commercial suppliers, including new players and start-ups that otherwise can't invest in multi-year acquisitions; and energizes the national security industrial base through new opportunities to more rapidly demonstrate and field new capabilities.

The following is a notional example of a new system in the news and does not constitute endorsement or advocacy of the system. General Atomics (GA) recently unveiled its new Mojave drone aircraft, an upgraded version of its MQ-9 Reaper and MQ-1 Predator/Gray Eagle. Mojave can carry 16 AGM-114 Hellfire missiles, four times the number carried by the current Reaper. It can take off or land on dirt roads—an ideal capability for forward-deployed locations without an established infrastructure. It can loiter for over a day and has high-quality Intelligence, Surveillance and Reconnaissance (ISR) capabilities. General Atomics developed the system and is now looking for a customer.

Let's assume if a priority Combatant Commander, after seeing a demonstration of the system, calls key officials in the Pentagon and demands: *"Get me a bunch of these ASAP! These would address a top priority capability gap beyond what we have today and in the development pipeline."* How would the DoD go about rapidly assessing, acquiring, and delivering the systems to theater?

This scenario can be the "new norm" now. Through more creative use of existing acquisition approaches and contracting strategies, with leadership and oversight support, this novel approach to acquiring and delivering new weapons systems can be today's standard.

Challenges

The challenge starts with breaking from the current approach. In the current norm, to launch the program, DoD defines requirements, secures funding, conducts analyses, develops strategies, and holds many reviews.

DoD then requests proposals and selects one or more contractors to develop and produce the system according to DoD's requirements and under government oversight each step of the way. Programs must navigate an ever-increasing labyrinth of bureaucracy that imposes high costs and long timelines and leads to mixed performance. What if there were a better way to acquire innovative systems at a fraction of the time, cost, and risk?

To begin with, the Air Force, Army, or Special Operations Command (SOCOM) would have to assume responsibility for assessing and acquiring these systems (or the Secretary of Defense would have to direct). The sponsoring organization would have to make a commitment to take the necessary funds out of its Total Obligational Authority (its allocated budget) or else it would have to work out a cost sharing agreement among the Services. That is the first big hurdle DoD must overcome. The next major challenges are that the DoD lacks a validated requirement, appropriated budget, or acquisition program for a new drone aircraft.

Requirements: Traditionally the Joint Capability Integration Development System (JCIDS) process would take two years to develop, coordinate, and approve the requirements for a major unmanned system. As the contractor already developed the aircraft independently based on related systems, instead of being driven by DoD requirements, contracts, and oversight. It wouldn't make sense for DoD to spend two years on developing and validating new requirements that either match the developed system or adds additional features.

Budget: The President signed the FY22 National Defense Authorization Act (NDAA) in December. Congress hasn't passed the appropriations bill yet—maybe next month? Neither bill includes funding for this new drone aircraft. The DoD is finalizing the FY23 budget request and planning FY24 and FY25 budgets, which likely don't currently include a funding line for such a system.

Acquisition: Currently DoD doesn't have a program or program office for this system. Depending on which organization steps up to manage this program, an existing program office would likely provide the initial structure and resources. While the Combatant Command may be interested in this specific system, other companies may have similar viable systems in development or already commercially available. One possible approach is to scope the system as a block upgrade to MQ-9 Reapers.

First Things First

DoD should form a small team to explore the feasibility of this system or an alternative system. The team should include members from acquisitions and operations who have experience with related systems, such as engineers, operators, testers, sustainers, contracting, and other functional areas. A DoD leader would task the team to:

- **Meet with Contractor** and get a deeper understanding of the operational system, its technology maturity, test results, estimated production timelines and quantities, ballpark costs (unit cost, operations, and sustainment), future plans for additional features or improved performance, demos, etc.
- **Perform market research.** Do other companies have comparable systems fully developed, in production, or plans to produce similar drones in a few years? This includes radically different approaches to achieve the desired mission effects. For example, the Air Force and Kratos are developing the XQ-58A Valkyrie drone. GA and Air Force Research Laboratory (AFRL) are also flying an Avenger drone with Skyborg AI controls.

- **Weigh operational considerations.** How would this system integrate into broader processes, roadmaps, and tactics for force application and ISR?
- **Examine lessons learned** from MQ-9 and MQ-1 and related systems. Based on their strengths and weaknesses in the system design, production, operational performance, maintenance, and costs, how has the contractor addressed these factors in the new system?
- Explore ways for DoD to **test and verify** that the system has sufficient cybersecurity measures, is interoperable with related systems, and would be reliable/maintainable over the short/long term.

Depending on what the initial team finds out, the DoD may want to acquire or lease one or a few systems for testing and experimentation. This would enable operational testers to "kick the tires" and allow DoD to integrate this system into various operational exercises to see how well it performs in various conditions and scenarios, which include related systems and notional adversary capabilities.

Potential Acquisition Approaches

The Adaptive Acquisition Framework (AAF) includes six tailorable acquisition pathways, which provides a dynamic alternative to the single, traditional acquisition model used for decades. Below are four notional strategies to rapidly acquire this new mature system by tailoring the AAF acquisition pathways.

Joint Emergent Operational Need (JEON) The Combatant Commander or the Chairman or Vice Chairman of the Joint Chiefs of Staff could initiate a JEON based on an anticipated contingency operation. This would enable DoD to aggressively streamline processes to acquire deliver capabilities within two years. The Joint Capabilities Board and/or the Joint Requirements Oversight Council would validate the requirements, notionally in 31 business days. The JEON's Pre-Development activities would include analyzing various courses of action and developing an acquisition strategy. The acquisition team would leverage and expand upon the initial team assessments summarized above. The JEON could shape the requirements and acquisition strategy around the developed system, if no other viable alternatives existed.

Depending on costs, timing, operational risks, performance, and other factors, the system could be a short- or long-term solution. DoD could acquire a limited quantity of the drones and operate them for the next 5–10 years, then pivot to another solution if the system doesn't meet expectations. If the pilot effort succeeds, DoD could continue to acquire newer versions every year or few years with a longer-term acquisition and sustainment strategy.

Middle Tier of Acquisition (MTA) Rapid Fielding (RF)
The acquisition executive of the lead Service could establish a MTA rapid fielding program. Congress established MTA, with the rapid fielding path for starting a production line within six months, following "minimum development," and completing within five years or less. MTA programs have a tailored and streamlined requirements process that takes less than six months. As noted above, if the requirements were designed around the developed system, they could be approved faster.

Moving forward with an MTA RF approach assumes the developed system is ready for production in short order. If the initial testing and experimentation activities require additional time or uncover issues that the contractor must

address before starting production, the program could leverage a brief rapid prototyping phase or other activity before formally starting MTA RF. Similarly, if the contractor needs additional time to get a production line up and running, the DoD will have to address some of the MTA time constraints.

Acquisition of Services
This approach would really stretch the limits of traditional thinking but could offer a novel approach for DoD going forward. Related to Defense Innovation Unit awarding Anduril a proof-of-concept contract to provide Counter UAS-as-Service, DoD could award a "Force Applications and ISR as-a-Service" contract. DoD could pay the contractor based on the number of sorties flown, the mission effects/performance, and operational availability in various theaters. In this way, DoD would compensate and incentivize the contractor to maintain and regularly upgrade the system's hardware and software. This could offer cost savings to the DoD and increased revenue and profits for the contractor. DoD and the contractor would have to analyze the proper incentives thoroughly to agree on common outcomes.

Major Capability Acquisition (MCA)
The last alternative is to use the MCA pathway, which most closely resembles the traditional acquisition model for decades. In lieu of the traditional upfront analysis, technology maturation, and initial designs and development, the program could aggressively tailor this acquisition pathway. Depending on the remaining design, development, and testing required, the program could start with an abbreviated Engineering and Manufacturing Development phase and then proceed to production and deployment. The milestone decision authority must be a strong champion of the program to push back against any DoD organizations that want to burden the program with the full weight of the traditional documentation and processes.

The PM should be empowered to tailor processes, documents, and reviews, consistent with the tenets of the Adaptive Acquisition Framework, which are based on acquiring a mature system. This pathway requires a traditional JCIDS requirements document, which ideally would be framed around the mature system and the operational needs. The risk here is that the program might not escape having to comply with countless bureaucratic requirements, so the sponsoring program should explore other acquisition pathways first.

Potential Contracting Strategies

While there's no one preferred contract strategy, the following paragraphs summarize potential strategies that were designed for rapid acquisition of commercial solutions. For initial testing and experimentation, the DoD could explore using:

Cooperative Research and Development Agreement (CRADA). A CRADA would consist of an agreement between DoD and the contractor for collaboration in research, development, and demonstration and technology advancements. The could provide the DoD organization one or a few systems to test on its ranges. This would give the contractor new access to government ranges and produce valuable test data for DoD (and the contractor) analysis. It would enable DoD to explore the system without incurring the costs of awarding a contract. The DoD's costs would be limited to covering personnel and use of the test range.

Procurement for Experimentation (10 USC 2373). "2373" authorizes DoD to acquire quantities of a product necessary for experimentation, technical evaluation, and assessment of operational utility, or to maintain a residual operational capability. The drone aircraft represents the perfect scenario for

2373, which was designed for application in nine areas: ordinance, signal, chemical activity, transportation, energy, medical, space flight, aeronautical supplies, and telecommunications. As Rick Dunn noted years ago: "Going back to the original statute it is clear that supplies can mean a full up system platform such as an aircraft." DoD could acquire a limited quantity of systems for testing purposes and determine the best fit for an acquisition strategy. DoD can award a contract or agreement quickly and non-competitively via a Determination & Finding that includes the description, quantities, and statement of appropriateness.

For the later phases of acquisition, the DoD could explore the following strategies:

Other Transaction (OT). DoD could use prototype OTs to acquire a reasonable number of prototypes to test in the field before deciding to purchase a final product in quantity. Prototype OTs provide a streamlined path toward award of a non-competitive follow-on production OT or Federal Acquisition Regulation (FAR) contract. If the agreements officer makes it clear when competing the prototype OT, this could lead to a follow-on production OT contract and can also streamline processes for acquiring aircraft at production quantities.

Commercial Solutions Offering (CSO). After a trial period lasting a few years, Congress in the FY22 NDAA made CSO authority permanent. CSOs enable DoD to obtain solutions or new capabilities that fulfill requirements, close capability gaps, or provide potential technological advances. DoD can use CSOs to acquire innovative commercial items, technologies, or services that directly meet program requirements. The CSO is a competitive process that DoD could also use to acquire research and development (R&D) solutions from component development through operational systems development.

Unsolicited Proposal. Per FAR Part 15.603, "Unsolicited proposals allow unique and innovative ideas or approaches that have been developed outside the Government to be made available to Government agencies for use in accomplishment of their missions. Unsolicited proposals are offered with the intent that the Government will enter into a contract with the offeror for research and development or other efforts supporting the Government mission, and often represent a substantial investment of time and effort by the offeror." As the system is innovative and was independently developed by the contractor without government supervision or involvement, the DoD could leverage the unsolicited proposal processes to explore directly awarding a contract per negotiated costs and terms.

In addition to the strategies above, DoD could use a wide range of FAR contracts and non-FAR agreements. The contract strategy should consider viable competition today and ensuring robust competition in the future. The contractor may offer a valuable solution today and be rewarded with a large contract to acquire many aircraft. This may entice other companies to prototype and develop solutions so that they can compete for future contracts. The contract strategy should consider how to rapidly exploit leading mature technologies today and expand the marketplace in the future. It must consider longer-term sustainment costs (government and contractor) in addition to the upfront cost to acquire the systems. Contracting officers must avoid vendor lock, whereby companies know DoD can't change providers of products that incorporate proprietary technology, which enables them to charge a high price for sustainment and upgrades.

The team should conduct a business case analysis to explore what a longer-term strategy could look like. Maybe the DoD could acquire a few dozen aircraft over the next few years as budgets and production capacity allow, but then after a few years explore split buys. It could acquire aircraft from this contractor and a similar system from another vendor. The strategy could center on annual buys or multiple 2–3-year contracts. DoD would buy higher quantities from the vendors that offer the best performance, price (and lifecycle costs), and other factors. If more competitors offer solutions, that will generally fuel increased innovation and decreased costs. If over the years one company emerges as the clear winner on performance, it will charge a premium price, which the DoD obviously wants to avoid. DoD can also partner with other nations on a portfolio strategy to acquire drone aircraft. Fielding multiple types of systems has the disadvantage of requiring the training, maintenance, and related support structure to handle several different systems.

Potential Budget Strategies

DoD would likely be challenged to fund a new effort during the current budget year. The first challenge would be availability of funds since funds have already been allocated and programs are executing their plans. The second challenge would be gaining new start approval for this new activity. To find additional funds, leadership would need to make this a priority and pull resources from existing efforts. That could then be included in a new start reprogramming package to Congress for approval by all four committees. If the entire procurement could be kept within $10-20M, a congressional new start letter notification could be used instead. DoD may also be able to find some flexibility within current MQ-9 budget lines to support integration or testing work. There may be potential to leverage the Pacific Deterrence Initiative (PDI) Experimentation account which may help accelerate the aircraft's integration into the force structure. The new Rapid Defense Experimentation Reserve (RDER) fund might also be used to cover planning, analysis, testing, prototyping, and experimentation activity. While there are many options for funding, they will all require significant leadership support and advocacy to efficiently garner the necessary resources and authorities.

For the next fiscal year, depending on where DoD and Congress are in the budget process, DoD would have to assess where it could shift other funding to acquire the aircraft, then actively engage Congress. The contractor would likely lobby its Congressman and Senators (and others on the key defense committees) to support funding system sales. DoD's biggest opportunity would come in the FY24 budget, in which it would have to Include funding for this new system in its plans. This will require a clear understanding of total ownership costs and budget priorities. The operational urgency, DoD leadership support, and partnership with Congress will drive whether the new drone aircraft is funded and how quickly.

Many Other Factors

Acquiring a major weapon system isn't just another tool on the shelf for operators to use but requires extensive planning and actions before DoD can incorporate this aircraft into operations. How would Combatant Commands and the Services integrate this new system in concepts of operations within the various theaters? How would it work with or displace other systems? Which operational commands would be responsible for these systems, and at which bases (CONUS and OCONUS) would the aircraft be located? What level of maintenance and support

do operational commands, a depot, and/or the contractor require? What training do operators and maintainers need? Who must certify these systems are ready for operations? How do the acquiring and operational organizations ensure cyber and physical security on a continual basis? Who has responsibility for verifying the security of the parts and for managing supply chain risks? DoD and the sponsoring organization must think through and address hundreds of related questions before fielding a new system like fielding a new drone aircraft.

A key point is that while DoD spends time on burning down acquisition and technical risks, the operational risks continue to increase as the threats evolve and legacy systems continue to age and deteriorate.

A Paradigm Shift Is Possible Today

If efforts to acquire systems such as Mojave prove successful, they could represent a novel approach to acquiring and delivering major weapon systems. Instead of DoD spending years writing requirements, conducting analysis, actively designing, and overseeing development of systems, industry could proactively develop many solutions. DoD can communicate operational needs, limitations of current systems or and operational risks, and desired outcomes to let industry iteratively design and develop solutions. This may save years over traditional requirements and acquisition timelines as well as millions or billions in costs. DoD can host a series of challenges or fly-offs to assess which system's demonstrated performance works best in meeting the need and the costs involved.

Industry far outspends DoD in R&D and offer a wide range of leading innovative solutions to address DoD's needs. This could revive the national defense industrial base by enabling non-traditional contractors to join the defense sector and fuel countless startups and small businesses. This new model won't work for all systems but offers novel approaches across many domains. It could represent a turning point for a 21st century environment in which DoD can rapidly harness commercial solutions to ensure military superiority.

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