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# Developing the Department of the Air Force Military Workforce of the Future

## Implications from the 2023 Air Force Global Futures Report

In March 2023, the Air Force Futures office released the *Air Force Global Futures Report: Joint Functions in 2040* (Air Force Futures, 2023). The Air Force Futures office is a relatively new construct operating at the Deputy Chief of Staff of the Air Force level. The office was previously structured as Headquarters Air Force A5, Deputy Chief of Staff for Strategy Integration and Requirements, and the office merged with the Air Force Warfighting Integration Capability in 2021. Maintaining a mandate to serve as “the voice of Tomorrow’s Airmen . . . delivering the tools and training they will need to defend the nation in their time” (U.S. Air Force, undated), Air Force Futures comprises three centers focusing on conceptual design, capability development, and integration and innovation.

The *Air Force Global Futures Report: Joint Functions in 2040* develops and presents four future operating environments through the following lenses:



- **Continued growth:** Great-power competitors continue efforts to increase leverage over the United States to diminish its advantages, and globalization remains the dominant economic factor. This lens presents a future world with unchanged fundamental principles.
- **Transformational:** Unprecedented technological advances and widespread dissemination reshape global power dynamics to a degree previously considered implausible. This lens posits a future fundamental shift in the rules of the established world order.
- **Constrained:** Sino-Russian coordination benefits both countries, bolstering their economies while constraining the economies of perceived rivals. The United States and its allies and partners struggle in this future world order. This lens indicates that competitions are not always complete or transformative.
- **Collapse:** Both natural and manmade crises, from climate change to resource constraints, drive global isolationist and nationalist tendencies. The United States experiences reduced defense budgets, leading to diminished military size and operational capabilities. This lens presents the future possibility of a sudden loss of world order.

The *Global Futures Report* assesses how these four future operating environments interact with the U.S. doctrinal joint functions of fires, protection, movement and maneuver, information, intelligence, command and control, and sustainment (Air Force Futures, 2023). Overall, the report examines how these futures and their impact on joint functions enable or constrain Department of the Air

Force (DAF) strategic, operational, and tactical capabilities, including specific effects for both the U.S. Air Force (USAF) and U.S. Space Force (USSF).

Across the four scenarios evaluated in the paper, several key takeaways emerge (Air Force Futures, 2023, p. 32):

- Transformational computing in such areas as quantum computing affects the global balance of power and acts as a force multiplier for other emerging future trends.
- Advances in sensors and connected weapon systems prevent future sanctuary from adversary attack.
- Technological advances in such areas as neuroscience, information operations, and life science lead to vulnerabilities in human cognition and biological functions.
- Balancing continued globalization with the solidification of disparate power blocs defines the next 20 years.

Using the *Global Futures Report*, the Air Force Futures office aims to inspire DAF budgeting, resourcing, and organizational management to prepare for these trends and potential future scenarios. The overall goal for the *Global Futures Report* is to ensure that the DAF, as an organization, avoids analytical mistakes that might result in adopting unilinear consensus views of the future.

### Abbreviations

DAF	Department of the Air Force
DEI	diversity, equity, and inclusion
SAT	structured analytic technique
USAF	U.S. Air Force
USSF	U.S. Space Force

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## **Framing This Assessment**

Overall, the *Global Futures Report* introduces a novel lens through which to consider not only potential future operational scenarios but also the workforce required to support DAF operational success across these scenarios. Each scenario in the report varies from the next, and it would be impractical for the DAF to invest in transformative personnel practices today in preparation for one specific future possibility. Instead, the *Global Futures Report* indicates that the future operating environment will look markedly different from the current global context, even considering the potential future of continued growth.

Therefore, the DAF should incorporate more agile workforce practices now to prepare for whatever future unfolds. These agile practices include leveraging relationships between the military and private sectors to promote recruitment and accessions, investing in military family and quality-of-life programs to enhance retention of personnel with key skills, and adopting more flexible career-development paths so that the DAF can leverage its personnel in innovative ways to meet unforeseen challenges as they emerge.

Of note, in this paper I consider DAF workforce-development practices applicable to the military portion of the workforce and do not specifically address government civilians or contractors. As critical enabling elements of

the DAF, these populations will need to be considered and synchronized within plans to prepare the workforce of the future. Additionally, in this paper I do not distinguish across categories of the total force (i.e., active duty, Reserve, and Guard personnel) when presenting recommendations on military workforce management and instead consider how innovative workforce management policies can empower all service members, regardless of duty status.

## **Air Force Futures Methodology for Developing Future Scenarios**

In the *Global Futures Report*, the Air Force Futures office employs foresight methodology: “the systematic study of the future to assist planners and strategists in anticipating what plausible futures may exist and allow them to steer organizations away from threats and toward preferred outcomes” (Air Force Futures, 2023, p. 5). This approach includes four steps:

1. Scan the environment for elements that may affect the future.
2. Analyze the elements.
3. Build scenarios based on trends and findings.
4. Analyze the scenarios and conduct exercises to identify challenges, opportunities, and risk to plans and strategies.

The office utilized the Hawaii Research Center for Future Studies' four future archetypes methodology to generate the scenarios employed in its report. Additionally, the office employed structured analytic techniques (SATs) throughout its methodological approach.

Considering these methods, I assess that the *Global Futures Report's* framework and contributions face some limitations: namely, the report does not include a detailed discussion of its data practices because of proprietary and classification constraints. For example, the first step in the office's approach to generating the report involves "scanning the environment," during which the office "collected scanning hits from open sources, compiled the hits in a database, and binned them" into categories for analysis (U.S. Air Force Futures, 2023, p. 5). Because of the proprietary nature of the office's methodological tools, as well as classification constraints, the report does not outline which open sources supported this approach nor what categories of information were left out of the analysis.

These constraints may leave readers of the *Global Futures Report* limited in their ability to interrogate the report's analysis. Additionally, proprietary data practices or classification constraints may discourage others from partnering with the Air Force Futures office to build on this foundation of research. If so, this is a missed opportunity: readers should consider the *Global Futures Report* as a foundation for expanded research. This could include running simulations to predict future scenarios or conducting analyses of indications and warnings tied to certain scenarios. Such efforts could optimize the contributions of the

report while overcoming existing challenges resulting from opaque data practices.

Overall, the *Global Futures Report* offers novel insights into potential future scenarios for which the DAF should prepare its military workforce. Specifically, aligning workforce development with operational outcomes is a viable mechanism to garner support and justification for investing in workforce changes, because this approach reinforces that workforce development is a mission-critical requirement for operational success. Therefore, I leverage the *Global Futures Report* and its analysis as an opportunity to examine personnel practices that often remain path-dependent (Mahoney, 2000) and thus would benefit from evaluation and innovation.

## Methodological Approach

In this paper, I evaluate implications of the four future operating environments for the DAF workforce regarding knowledge, skills, abilities, and other characteristics, or KSAOs (Air Force Manual 34-310, 2011).<sup>1</sup> Specifically, I examine whether the DAF will need to recruit, train, and manage its personnel differently to enable "the recruitment of a competent, stable work force" equipped with the necessary KSAOs (Air Force Manual 34-310, 2011, p. 335).

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<sup>1</sup> *Knowledge* refers to the body of information applied directly to the performance of a function; *skills* refer to present, observable competencies to perform a learned process; *abilities* indicate the capability to perform an observable activity at the present time; and *other characteristics* include physical or mental characteristics falling outside the aforementioned definitions (Air Force Manual 34-310, 2011).

I apply a qualitative analytical approach to assess talent management implications of the Air Force Futures office's predictions, comprising a review of DAF policies; analytical insights from DAF personnel with extensive experience in strategic policy and diversity, equity, and inclusion (DEI); and assessments from RAND personnel with deep knowledge of long-term DAF workforce-development and operational practices.

My approach provides policy recommendations in response to the *Global Futures Report's* potential futures but does not apply hypothesis testing or outcome viability assessments when providing these workforce-development recommendations, which is one limitation of this paper. Future research building on this paper would benefit from longitudinal analysis evaluating which future operating environment emerges as time passes and which workforce recommendations are most appropriate for implementation as a result.

## **U.S. Air Force and U.S. Space Force Workforces Across Four Futures**

According to the *Global Futures Report*, the DAF workforce will require deep knowledge of, training in, and operational capabilities across quantum technologies (Earle, 2022), hypersonics, space operations, cyber operations and technologies, artificial intelligence/machine learning, autonomous platforms and operations, blockchain technology, directed energy, gene editing, and international cultural and language awareness. Considering these requirements and the specific challenges attendant

to each future state presented in the *Global Futures Report*, the following sections and Figures 1 through 4 summarize my recommended personnel recruiting, training, and management processes specific to the USAF and USSF across each projected scenario. The four figures aim to identify key workforce-development areas specific to USAF and USSF efforts, with the USAF maintaining well-established legacy practices and the USSF standing up new talent management programs since the service's establishment in 2019. Some figures include recommendations that apply to both services, whereas other workforce policy recommendations apply specifically to the USAF or the USSF depending on their existing practices.

## **Continued Growth**

In the *Global Futures Report's* continued growth scenario, the future state represents a basic continuation of the contemporary status of world politics. The United States has been forced to discontinue geostrategic basing and international overflight arrangements, and China and others have cut off Western access to markets, forcing the West to expand into developing countries. The rule of law and the World Trade Organization remain intact, but alternative governance and banking under a Sino-centric worldview have grown. Proxy wars have increased, along with risks and impacts posed by nuclear weapons, hypersonics, chemical and biological weapons, and gene editing technological applications. With the failure in Afghanistan still in mind, the U.S. population is resistant to the use of military forces in high-end conflict and has become risk-averse, constraining advances in acquisition and military decisionmaking. Operational planning and execution are all-domain, and

the growth of artificial intelligence autonomous systems has rendered air domain persistence possible only through semi-autonomous, long-endurance airborne systems (Air Force Futures, 2023).

The *Global Futures Report's* continued growth scenario affects several DAF joint functions and required workforce development in key ways. Considering the joint function of protection, supply chain challenges and vulnerable U.S. basing demand increased interoperability with allies and partners. The information and intelligence environment has become one of disinformation and deep fakes, increasing the use and importance of human intelligence skills. Alternative command and control power structures and new tactical methods have emerged, with the USAF delegating decisionmaking to lower levels, commensurate with acceptable levels of risk, allowing dispersed teams to operate almost anywhere (Air Force Futures, 2023).

### The DAF Workforce and Continued Growth

Overall, this scenario represents the continuation of existing DAF engagements amid great-power competition. As a result, USAF and USSF workforce management practices should continue on existing trajectories while incorporating key requirements: increased investments in allied and partner engagement, more robust human intelligence and technical skills development and training, and more flexible decisionmaking command and control architectures that empower (and retain) leaders at lower levels of the military structure. Current efforts to expand DEI programs enabling recruitment and retention of diverse populations can enable effective engagement with allies and partners, including efforts to increase rated diversity (U.S. Air Force, 2021) and ongoing policy engagements to remove struc-

tural barriers to the retention of women and other minority populations across the force (Atkinson and Nadeem, 2021). Additionally, to prepare for the growth of all-domain operating environments, the USAF and USSF should continue investing in technical skills training and development.

A key strength of this approach is its familiarity; decisionmakers should face minimal challenges adopting these recommended practices, given that they fall in line with established efforts. Associated weaknesses involve the lack of flexibility in workforce-development approaches in this “status quo” dynamic, which may constrain DAF innovation should the future operating environment differ from this continued growth path. Figure 1 summarizes the key workforce dynamics under the continued growth scenario.

### Transformational

In the transformational future operating environment, the USAF experiences a decreased force size and has consolidated expeditionary and overseas basing to a smaller, hardened, and more self-sufficient footprint. The United States is dominant in space and cyber, and the growth in cyber technology demands more wargaming, legal oversight, and collateral damage assessments. Flight and maintenance scheduling are all automated, and forward basing and operations of electric aircraft and vessels have increased. Cognitive researchers can view the formation of thoughts in real time through biometrics and advanced sensors. The DAF benefits from agile acquisition practices and strengthened military-industry relationships, with the military no longer remaining siloed from civilian industry. The military leases continuously evolving platforms, and

FIGURE 1  
The DAF Workforce and Continued Growth

U.S. Air Force	U.S. Space Force
<ul style="list-style-type: none"> <li>• No significant change to established workforce</li> <li>• Expand DEI measures to bolster allied partnerships</li> <li>• Increase all-domain training across career fields</li> <li>• Develop skill sets for mis-, dis-, and mal-information</li> <li>• Increase human intelligence training and billets</li> </ul>	<ul style="list-style-type: none"> <li>• No significant change to existing/planned workforce</li> <li>• Establish DEI measures to bolster allied partnerships</li> <li>• Institute all-domain training across career fields</li> <li>• Develop data fluency across skill sets</li> <li>• Set flexible accessions of technical diversity</li> </ul>

pilot training must become more agile and responsive to adaptive technologies (Air Force Futures, 2023).

Across the joint functions, the United States has pulled out of the Outer Space Treaty of 1967, and fires are now a space capability. In terms of protection, fewer bases and limited logistics require shared defense agreements and practices. This requirement spurs the retraining of DAF personnel to adapt to shifted cultural understandings, particularly under allied and partner commands. The information and intelligence function sees an increase in virtual environments, with open-source intelligence distribution centers working to determine truth from fiction. Command and control are decentralized and distributed, respectively, with increased authority delegated to the lowest appropriate echelons (Air Force Futures, 2023).

### Transformational Impacts on the DAF Workforce

The transformational scenario places the USSF at the forefront of DAF operations, with the USAF operating as a supporting service. Key DAF workforce requirements in this scenario include increased investments in USSF personnel

capabilities at the expense of USAF personnel, given the decreased USAF force size; more flexible USAF flight and maintenance training and development practices to adapt to evolving autonomous systems; and increased investments in DEI and cultural training to support operations under allied commands.

Strengths of this workforce management approach include a relatively straightforward plan to prioritize USSF workforce development over supporting USAF functions. Challenges include potential resistance from decisionmakers to pivot from long-standing investments in established airframe platforms and associated pilot training pipelines. Figure 2 captures recommended personnel management practices in support of a future in which USSF workforce capabilities require prioritization above USAF capabilities.

### Constrained

In a constrained future environment, the United States has withdrawn from its role as a global leader amid crises across natural resources, climate change, energy challenges, sanctions, polarization, food production, and



FIGURE 2  
Transformational Impacts on the DAF Workforce

U.S. Air Force	U.S. Space Force
<ul style="list-style-type: none"> <li>• Set the USAF as supporting workforce to the USSF</li> <li>• Refocus pilot training on autonomous systems</li> <li>• Modernize acquisition force to adopt agile practices</li> <li>• Expand open-source intelligence training</li> <li>• Grow cultural training to support allied command operations</li> </ul>	<ul style="list-style-type: none"> <li>• Move personnel billets from the USAF to the USSF</li> <li>• Grow private-sector training and partnerships</li> <li>• Recruit cyber and space technical capabilities</li> <li>• Initiate space fires rules of engagement training</li> <li>• Establish cultural training to support allied command operations</li> </ul>

health. Precision bioweapons have eroded and halted U.S. military actions, undermining the ability to project power. The United States has dispersed forces to clusters of smaller distributed locations, both globally and domestically. Domestic polarization reduces budgets for military forces, leading to pay freezes and increased competition for private-sector jobs. Recruitment has dropped because of a growing fear of health concerns over bioweapons, and an overall lack of medical care produces distrust in the military. The United States suffers from an overall inability to utilize key technological advancements from the private sector, leaving U.S. government agencies at an information disadvantage in the speed of analysis. The United States and its allies struggle to survive with the growth of Sino-Russian coordination (Air Force Futures, 2023).

Considering the joint function of fires, the United States dominates in space but faces daily challenges to its advantage. A zero-growth force creates protection challenges, causing the U.S. military to explore more efficient and sustainable base operating and support technologies, and staffing shortages force the U.S. military to increase

interoperability with and dependence on allies and partners. Movement and maneuver are greatly restricted, with low risk tolerances leading to geographic limits on global military operations. The information and intelligence function sees an increase in individual manipulation and reduced confidence in truth, leading the intelligence community to shift to analog techniques and a renewed reliance on human analysts. The United States requires a small force to manage complex command and control systems that never evolved, and slower supply chains with long logistics tails cripple sustainment capabilities for force positions (Air Force Futures, 2023).

### The DAF Workforce in a Constrained Future

This scenario places significant constraints on both USAF and USSF operations. U.S. dominance in space means that workforce-development efforts should prioritize the USSF over the USAF, and both services need to maximize skill development and contributions from a smaller, underfunded force. The DAF should leverage USSF commanders and personnel to staff and sustain USAF units. Addition-



ally, USAF personnel skill development should prioritize human intelligence and technological support functions as opposed to continued investments in pilot training for manned platforms, because pilots cannot operate freely in environments of restricted movement and maneuver. To retain the reduced, skittish personnel force they still have, both services should increase force support programs, such as investments in health care and child care, in efforts to retain personnel amid such high-risk threats as bioweapons.

Strengths of this approach involve enabling the DAF to “do more with less,” though the constrained nature of this future operating environment renders DAF workforce development limited in its ability to enable operational success at all. Decisionmakers should adopt more flexible and innovative workforce dynamics now to avoid a “do more with less” restrictive dynamic in the future. Figure 3 summarizes recommend DAF workforce management practices to prepare for this scenario, in which space capabilities

represent core DAF strength despite budget constraints limiting the size of the USSF personnel force.

## Collapse

Finally, a collapse scenario presents an environment of extreme technological advances in quantum computing, autonomous systems, and artificial intelligence/machine learning. In this scenario, directed energy coupled with severe climate change forces mass migration. Vulnerable military installations repeatedly evacuate, and power has dispersed from the government level to individual actors, who practice technology-enabled terrorism. In space, commercial satellite arrays have grown exponentially, but tracking and maintenance systems remain terrestrial, and storm systems lead to low earth orbit collisions. The United States has stepped away from the North Atlantic Treaty Organization and has refocused all its USAF efforts on humanitarian assistance and disaster response, though the pressure to support others amid global collapse has led to a

FIGURE 3  
The DAF Workforce in a Constrained Future

U.S. Air Force	U.S. Space Force
<ul style="list-style-type: none"> <li>• Set the USAF as supporting workforce to the USSF</li> <li>• Reduce manned pilot training pipelines</li> <li>• Increase analog and human intelligence training</li> <li>• Increase health care resources vs. bioweapons</li> <li>• Expand military quality of life programs for retention</li> <li>• Focus promotion on skill mastery vs. leadership</li> </ul>	<ul style="list-style-type: none"> <li>• Prioritize the USSF workforce over the USAF</li> <li>• Grow private-sector partnerships for force growth</li> <li>• Implement hazard pay for risky space operations</li> <li>• Increase health care resources vs. bioweapons</li> <li>• Establish military quality of life programs for retention</li> <li>• Assign USSF commanders to units in a smaller USAF</li> </ul>

domestic isolationist posture. Overall, the footprint of the USAF has shrunk significantly, and defense budgets are frozen (Air Force Futures, 2023).

Concerning the joint functions, fires operate across cyber and electromagnetic spectrum operations. The military maintains robust offensive protection efforts while growing defensive cybersecurity, and network attacks capitalize on food and water supply vulnerabilities. The USAF still maintains fuel-inefficient platforms for movement and maneuver, with limited fighters and overtasked mobility platforms. The information and intelligence community struggles in this challenging environment, and constant network attacks drive a return to analog methods and a greater reliance on human sources and methods. Dysfunctional command and control systems slow operations, and commanders introduce a ration system in response to resource shortages to entice personnel with essential skill sets and valuable knowledge to join the military. Despite these efforts, the value of survival outweighs individual motivation to join cause-driven organizations, such as the military. The USAF returns to manual processes to reinforce sustainment infrastructure, and the U.S. Department of Defense shifts its military focus to domestic stabilization (Air Force Futures, 2023).

### The DAF Workforce: Struggling to Survive Under Collapse

In this scenario, the USAF has failed to modernize and experiences a total collapse in its ability to respond to global disasters. The service shifts its mission entirely toward humanitarian assistance and disaster relief, and the USSF struggles to manage vulnerable systems and capabilities. From a workforce-development perspective, the DAF

is in response mode and must shift its focus to maintaining basic skill sets across its reduced force, including manual processes, human intelligence and leadership skills, cyber capabilities, and cultural training to enable humanitarian assistance partnerships.

There are few strengths associated with this approach, because the DAF failed to modernize in this scenario and must struggle to react to a collapsing environment. Weaknesses in this reactionary approach involve the inability of the DAF to focus on recruitment or advanced workforce-development investments, as the service is operating in survival mode. Overall, decisionmakers should consider this scenario as a dire warning of what might emerge should the DAF adopt a unilinear view of the future and fail to innovate current workforce management processes, because the future operating environment may differ drastically from established assumptions driving current workforce practices. Figure 4 captures workforce-development efforts to prepare for this dire future in which intentional, inclusive collaboration across diverse cultures and worldviews is a necessary survival skill throughout the USAF and USSF workforces.

## Overall Implications for DAF Workforce Development and Management

The service-specific workforce-management recommendations detailed above align USAF and USSF workforce management practices with each future operating environment presented in the *Global Futures Report*. Given the challenge that one cannot accurately predict which, if any,

FIGURE 4  
Struggling to Survive Under Collapse

U.S. Air Force	U.S. Space Force
<ul style="list-style-type: none"> <li>• Draw down fighter platforms to sustain mobility operations</li> <li>• Increase training on all career field manual processes</li> <li>• Expand DEI/cultural training to enable humanitarian assistance and disaster response mission success</li> <li>• Increase analog and human intelligence training</li> <li>• Bolster human-centered leadership skills to engage survival-focused populations</li> </ul>	<ul style="list-style-type: none"> <li>• Shift personnel billets from the USAF to the USSF or merge services back together</li> <li>• Prioritize cyber skills/use private sector for space</li> <li>• Grow offensive/defensive cyber training programs</li> <li>• Partner with civilian sector to track mass migration</li> <li>• Develop human-centered leadership skills to engage survival-focused populations</li> </ul>

of the four scenarios will become reality, the DAF should not invest in preparing the workforce for one path at the expense of others. Instead, the DAF should adopt broad efforts to innovate and modernize its recruitment, education and training, and career-development practices to prepare for the range of potential future operating environments. In this way, the DAF can leverage the *Global Futures Report's* findings as an impetus to engage and innovate long-standing workforce-development practices that currently operate on path-dependent tracks (Mahoney, 2000) resistant to innovation or disruption.

## Recruitment

To prepare for dynamic future scenarios, the DAF must adopt flexible recruiting and retention practices to develop its workforce accordingly. Such measures include the following:

- Intentionally expanding direct accession of populations with the necessary knowledge, skills, and abilities into appropriate levels across military and civilian ranks
- Specifically adopting targeted recruitment and direct accession practices for highly skilled and intellectually creative populations currently facing accession barriers, from neurodivergent personnel who bring unique and necessary expertise to the national security community (Weinbaum et al., 2023) to personnel who might not fit established fitness qualifications but possess desired training and skill sets
- Increasing recruitment and retention efforts supporting DEI principles to enhance opportunities for cross-cultural engagement with critical allies and multinational partners (Lytell et al., 2023)
- Reinforcing and expanding support programs for DAF personnel and their families, such as child

care, health care, and education resources, to increase retention given predictions across multiple scenarios of a smaller future force facing budget constraints and limited resources. This effort should incorporate existing and future research on the effectiveness of incentive and bonus programs for military retention outcomes (Asch et al., 2010).

## Education and Training

The DAF must redesign its education and training systems to innovate workforce education and training processes in preparation for the range of future scenarios. Commissioning and enlisted training and assignment processes reflect career field requirements established through career field managers and functional authorities, with the Air Education and Training Center and the Air Force Personnel Center acting in support and provider roles, respectively. The challenge with innovating these requirements originates from the mandate that career field managers and functional authorities train and develop personnel for today's mission requirements, yet they must also balance forecasting requirements to prepare for the operational environments of the future in line with the lessons from the *Global Futures Report*.

The multitude of distinct DAF career fields exacerbates this tension, because career field development practices easily become siloed: the intelligence career field focuses solely on developing intelligence personnel, the logistics career field considers only logistics personnel, and so on across career fields. This leads to narrow education and training pipelines that stovepipe the workforce across distinct education and training programs, constraining efforts

to develop multi-capable service members in support of agile combat employment (Air Force Doctrine Note 1-21, 2022). Given these challenges, the DAF must redesign its strategic projection for personnel requirements to produce a workforce equipped with the necessary training for future scenarios. Additionally, commissioning and enlisted training programs should leverage technology-enabled talent management processes to meet this redesigned strategic projection (Schulker et al., 2022; Yeung et al., 2022).

Specifically, to meet the *Global Futures Report's* consistent projections of increasing environments of mis-, dis-, and mal-information; multinational partnerships; flexible basing; and cognitive science, the DAF needs to increase training and development of key skill sets across multiple USAF and USSF career fields. First, the DAF should continue expanding information operations capabilities within the existing information operations career field and beyond (Seffers, 2022). Second, additional areas of increased education and training focus across career fields should include international cultural and language training to enable multinational military partnerships, agile project management to respond to projected supply chain challenges and flexible basing requirements (Mills et al., 2020), human intelligence training to maintain operations in contested information environments, and neuroscience training to understand and respond to future dynamic human factors and gene editing technology. Training and education in these skills should span career fields, offering opportunities for collaboration across USAF and USSF career fields and thus building a cohesive workforce that can adapt to dynamic challenges across disparate potential future environments.

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Moreover, all commissioning sources, enlisted training and development programs, and total force schoolhouses should redesign curricula and graduation requirements to prepare the workforce for future scenarios through engagement with external partners. Potential enabling activities include growing academic partnerships to leverage civilian expertise in these areas, partnering with industry resources (Voss and Ryseff, 2022), and developing multinational training programs with allies and partner nations to establish foundational relationships now that will enhance DAF workforce development in preparation for any future state of the world.

## Career Development

Whereas the previous section addresses initial education and training, this section considers the training, education, and other developmental practices that occur at different points throughout DAF personnel careers. Across the four states of the world in 2040, the *Global Futures Report* emphasizes the future requirements of alternative military power structures and the delegation of decisionmaking to lower levels (Air Force Futures, 2023). These dynamics require military personnel at all levels in the chain of command to demonstrate advanced leadership, flexible decisionmaking abilities, and agile project management.

For example, at present, the DAF workforce structure typically restricts legal command authorities to the field grade officer level and above (Air Education and Training Command, undated), which often results in decision-making authority remaining consolidated at that level. Instead, the DAF should adopt more flexible structures that empower junior officer, noncommissioned officer, and senior noncommissioned officer personnel to exercise broader decisionmaking authority in their leadership roles. Institutionally, the DAF should embed those expectations within career-development plans and promotion milestones.

To accommodate these requirements, DAF workforce management decisionmakers should consider lessons learned from the U.S. Army's institutional command model of company grade officers serving in command roles (Army Regulation 350-1, 2017; Straus et al., 2014). Additionally, the DAF should establish career progression paths for officers and enlisted to specialize in technical skills, as opposed to the current DAF model of developing officers as generalists. Alternatively, the DAF could consider establishing a warrant officer rank structure to maximize technical skill development and sustainment among personnel (Pietrucha and Renken, 2019). Overall, with multiple future scenarios in the *Global Futures Report* involving reduced force size and retention challenges, the DAF should adopt more dynamic practices to enable transformation and flex-

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Moreover, existing DAF acquisition and contracting practices face agility challenges due to extensive time and regulation requirements. Training all personnel in agile project management skills while also modernizing acquisition practices at the institutional level (Anton et al., 2020) will equip the DAF workforce to function in potential future scenarios of rapid basing closures, accelerated civil-military acquisition timelines, and uncertain longevity of overseas force posture sustainment.

As the nation's newest service branch, the USSF is planning to institutionalize more flexible talent manage-

ment practices to develop and retain personnel with specific technical abilities. Such measures include utilizing officers in advanced technical roles, directly accessing personnel with proven technical abilities, promoting a team-centric culture, and establishing flexible career path models (U.S. Space Force, 2021). The DAF should continue instituting such innovative personnel management programs across the USSF and the USAF alike, including measures to improve work-life balance and access to flexible benefits in line with priorities of younger generations (Minihan, 2021). Furthermore, senior leaders should continue working with congressional leaders to adapt and evolve legislative authorities that currently inhibit such flexible personnel management approaches (Robbert et al., 2023).

Overall, the DAF will benefit from leveraging the *Global Futures Report* as an impetus to examine its current recruitment, education and training, and career-development processes in light of a future operating environment that is ultimately yet to be seen. Modernizing and innovating workforce practices can prove challenging, but “innovation results from remaining connected to the operational problem that needs to be solved. In other words, innovation should relate directly to an operational requirement” (Gerstein, 2018). By aligning workforce-modernization requirements with the operational imperatives presented in the *Global Futures Report*, the DAF can better prepare for operational success regardless of which future scenario unfolds.

## Summary

The *Global Futures Report* presents four potential future states of the world, each of which requires intentional workforce-development programs to position the DAF for sustained operational capabilities. Given the dynamic and challenging nature of these potential future states, particularly the potential for reduced DAF operations in the constrained and collapse scenarios, the key pivot required for workforce development involves an active acknowledgment that path-dependent personnel processes constrain DAF flexibility to engage a variety of challenges and outcomes in future scenarios. Specifically, the DAF must actively engage its personnel management processes now in order to train, develop, and retain the necessary workforce to prepare for uncertain futures. Maintaining the status quo might prove sufficient for the continued growth scenario but will fail to enable successful operations for any of the other future

operating environments presented in the *Global Futures Report*.

Furthermore, across all possible future scenarios, the DAF must not assume that personnel will continue to join and remain in the USAF and USSF. This assumption reflects the past 20 years of personnel accession and retention bolstered in part by the motivation to support counterinsurgency operations (Atkinson, 2023; Barno and Bensahel, 2023). Today, however, younger generations demonstrate preferences for work-life balance and flexible benefits (Minihan, 2021) that DAF models currently lack compared with industry standards. Given these dynamics, incorporating flexible and innovative personnel recruitment, training, and retention practices as soon as possible will enable DAF success in the future, regardless of which future state emerges.



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## About This Paper

In March 2023, the Air Force Futures office released a report introducing four potential future operating environments in the year 2040, with scenarios ranging from continued great-power competition to the collapse of the global world order. In light of these potential scenarios, how should the Department of the Air Force develop its military workforce now to prepare for the future state of the world?

In this paper, I examine the *Air Force Global Futures Report: Joint Functions in 2040*, its methodological approach, and the report's findings before assessing implications of the alternative future operating environments on Department of the Air Force military workforce management practices. Specifically, I evaluate how the Department of the Air Force will need to recruit, train, and develop its military personnel differently now in order to prepare for sustained operational capabilities across future potential scenarios. While the Department of the Air Force can take specific actions to prepare for each individual future scenario, ultimately the department must incorporate more flexible and dynamic personnel management practices in the short term to prepare for whatever future environment emerges.

The intended audience for this paper includes Department of the Air Force personnel management offices, training and development functions, senior leaders, and policymakers.

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