



RESEARCH BRIEF

HOW TRAINING INFRASTRUCTURE CAN IMPROVE ASSESSMENTS OF AIR FORCE READINESS

THE DEPARTMENT OF THE AIR FORCE'S SENIOR LEADERSHIP is increasingly concerned that the readiness assessment system does not adequately measure the capability of the force to meet future mission requirements. At the same time, the U.S. Air Force (USAF) is evolving its training infrastructure in response to potential threats. This research found that advances in the technological capabilities of training infrastructure can help fill gaps in current readiness assessments to provide senior leaders with better insight into the readiness of the force for future contingencies.

APPROACH

To understand how investments in training infrastructure could fill gaps in readiness assessment, we conducted an extensive review of the relevant literature, policy, USAF documents (e.g., Defense Readiness Reporting System squadron reports), and training system technical documents. We also conducted 13 discussions with four USAF senior leaders and nine technical or subject-matter experts on readiness from various major commands. Ultimately, our analysis yielded recommended options for the future design of training infrastructure that take into account the benefits to readiness assessment.

KEY FINDINGS

1 THE WAY AIR FORCE SENIOR LEADERS THINK ABOUT READINESS DOES NOT NECESSARILY ALIGN WITH THE NEEDS OF DEPARTMENT OF DEFENSE LEADERS.

THE U.S. DEPARTMENT OF DEFENSE needs to consider the ability of disparate military units to integrate and conduct the full spectrum of operations against any adversary. The Air Force senior leaders we interviewed think about readiness along narrower dimensions: resource readiness and capability readiness (see Figure 1).

Figure 1. Current Readiness Assessment

Unit Resource Readiness	Capability Readiness		
	Individual	Teams	Teams of teams
P-level	How capable are pilots?	How capable are unit type codes?	How capable are USAF forces?
T-level			Joint forces?
S-level			
R-level			
	Threat environment		
	Objective	Subjective	

SOURCE: RAND analysis based on AFI 10-201, December 2020.

NOTE: P, T, S, and R represent personnel, training, equipment on hand, and equipment status, respectively.

Recommendation: Further differentiate capability readiness and align new dimensions with supporting inputs from appropriate functions at headquarters and major commands. The Air Force should define SMART (specific, measurable, attainable, relevant, and time-bound) elements of the broader definition of readiness and align these elements with inputs that can be provided by appropriate functional organizations across the service (e.g., inputs from Intelligence [A2] on adversary capabilities, Logistics [A4] for issues of sustaining capabilities in extended scenarios).

② THE USAF IS NOT MEASURING THE OUTCOMES THAT WOULD BE MOST USEFUL.

LEGACY METRICS focus on an individual service member's ability to conduct individual missions rather than on an integrated approach. Both Air Force training requirements and how training is achieved need to capture more-meaningful readiness metrics.



Recommendation: Consider a process mechanism to draw readiness reporting information from more-appropriate sources when unit commanders lack information. Planners should use the best available information from different functions to inform readiness reporting. Then, improvements to the state of capability knowledge enabled by new synthetic training opportunities can come from the same functional areas to improve future readiness assessments.

3

THE CURRENT READINESS ASSESSMENT PROCESS HAS GAPS THAT CANNOT BE ADDRESSED USING THE CURRENT TRAINING INFRASTRUCTURE.

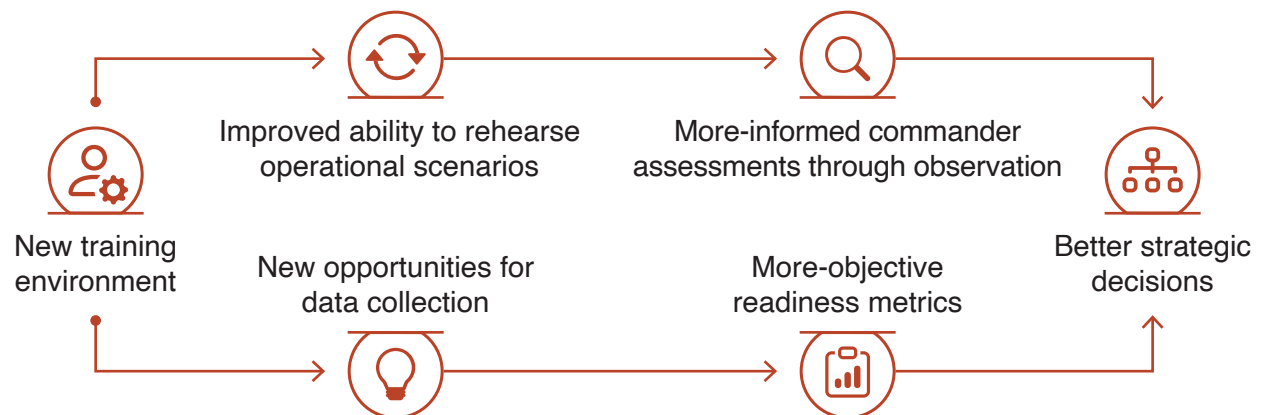
THE THREE GAPS ARE

- Measurement of factors that come into play only when forces are integrated
- Readiness report aggregation that does not match force presentation
- The requirement for unit commanders to report readiness on threat environments and scenarios that they cannot or rarely train against

Recommendation: Consider adding a field in the Defense Readiness Reporting System–Strategic to capture the quality of information used as inputs for subjective assessments. This would immediately improve the information available for subjective assessments. More important, it would position the Air Force to measure the impact of new synthetic training capabilities on the quality of information flowing into the system.

Recommendation: Factor readiness assessment gaps into Operational Test and Training Infrastructure (OTTI) priorities. Plans and priorities for future OTTI capabilities might not realize their full benefit unless the impact of training technologies on readiness assessment gaps is factored in. Planning documents, such as the OTTI Flight Plan, should consider the readiness benefits when setting priorities for OTTI development. Figure 2 shows how OTTI enhancements improve decisionmaking.

Figure 2. Pathways of OTTI Improvements







4 THE USAF'S PLANS FOR THE NEW COMMON SYNTHETIC TRAINING ENVIRONMENT CONTAIN TECHNICAL CHALLENGES IN THE DESIGN PROCESS.

THE DECISIONS MADE TO RESOLVE THESE CHALLENGES will affect how well the new system will improve readiness assessment.

Recommendation: As recommended for finding 3, factor readiness assessment gaps into OTTI priorities.

5 SEVERAL INVESTMENTS IN TRAINING ASSETS CAN HELP ADDRESS READINESS ASSESSMENT GAPS.

SENIOR LEADERS ACROSS MAJOR COMMANDS identified four investments:

-  Distributed mission operations training
-  More simulators and new synthetic threat environments
-  Aggregated force readiness measurement
-  Adaptive, proficiency-driven training

Recommendation: Create a working group focused on data and measurement to guide synthetic environment design decisions. A wide range of entities stands to benefit from the general-purpose information that might be created by future synthetic training environments. To ensure that new synthetic environments meet the diverse needs of these stakeholders, the Air Force should form a semipermanent cross-functional working group to advise acquisition efforts on design issues pertaining to data and measurement.



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This brief describes work done in RAND Project AIR FORCE and documented in *Air Force Readiness Assessment: How Training Infrastructure Can Provide Better Information for Decisionmaking*, by Emmi Yonekura, David Schulker, Irina A. Chindea, Ajay K. Kochhar, Andrea M. Abler, Mark Toukan, and Matthew Walsh, RR-A992-2, 2023 (available at www.rand.org/t/RR-A992-2). To view this brief online, visit www.rand.org/t/RBA992-1. The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND**® is a registered trademark.

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