



HQ AFMC/EN

2024

**Strategic
Plan**

**Engineering & Technical Management Directorate
Air Force Materiel Command**

"Wisdom from the past ... leadership for the future"

DIRECTOR'S FOREWORD

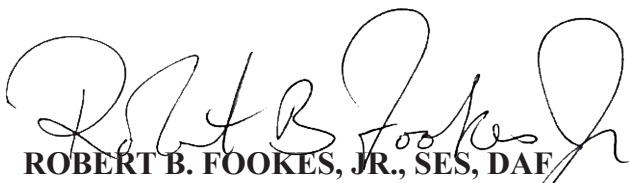
Our Nation is in an era of accelerating military competition. Just as the threats we face today are changing with unprecedented speed, so too must our methods and processes evolve to deliver war-winning, integrated capabilities. To continue our proud history as the world's greatest Air Force, we cannot resort to business as usual. As Air Force Chief of Staff General Allvin aptly stated, we must "honor our heritage by departing from the past."

The Air Force, if considered a public company, would undoubtedly be recognized as a cutting-edge technology firm. At the heart of our technology advancement are the scientists and engineers within Air Force Materiel Command (AFMC) and the six AFMC Centers. This talented team represents the tip of the spear for delivering materiel capabilities to the warfighter, from research and development to sustainment and disposal. The AFMC Engineering and Technical Management Directorate (AFMC/EN) exists to support this team in enhancing the command's technical capacity and acumen through three lines of effort (LOEs): Robust Systems Engineering and Lifecycle Technical Guidance, Technical Talent Development, and Digital Acceleration and Transformation.

As the director, I am committed to revolutionizing the way the Air Force manages its materiel through digital capabilities and collaboration. Implementation of Digital Materiel Management (DMM) solutions will help bring the command forward into modern ways of thinking, collaborating, and operating to deliver capabilities more effectively and efficiently. I also recognize our important and enduring role in technical guidance throughout the entire lifecycle. We need to revolutionize our policies and processes while maintaining the technical discipline needed to ensure our weapon systems are safe, suitable, and effective. Ultimately, our success in these endeavors relies on our people. We must develop and empower the command's technical talent.

Aligned with AFMC's vision for "One AFMC," we must continue to be a trusted advisor and collaborator to keep the Air Force ahead of industry trends, emerging technologies, and operational challenges. AFMC/EN will extend its support, technical guidance, and engineering expertise to other functional communities. We will assist leaders in these communities with insights and guidance to make informed decisions that advance the command's strategic objectives. We will continue to leverage our strong relationship with the Centers and SAF/AQ to accelerate strategic initiatives, such as DMM and other areas of emerging importance.

AFMC/EN is poised to ensure the Air Force continues to deliver airpower—anytime, anywhere—undeterred and unrestricted. We will guide the command into a new era of technological prowess by providing comprehensive technical guidance, developing our technical talent, and harnessing the power of digital.



ROBERT B. FOOKES, JR., SES, DAF
Director, Engineering and Technical Management

INTRODUCTION

HQ AFMC/EN exists to develop and empower the nearly 15,000 scientists and engineers across AFMC. As the chief engineer and technical authority for AFMC, we provide technical leadership and policy guidance to the command's senior leaders and the technical workforce across the command's six centers which include Air Force Research Laboratory, Air Force Life Cycle Management Center, Air Force Nuclear Weapons Center, Air Force Test Center, Air Force Sustainment Center, and Air Force Installation and Mission Support Center. AFMC/EN also provides matrixed technical support to the HQ AFMC staff including A3/6, A4/10, A5/8/9, and Safety (AFMC/SE). An overview of key missions is depicted in Figure 1.



Figure 1: HQ AFMC/EN Missions (further detailed in HQ AFMC Mission Directive 401)

MISSION

"To assure the undisputed technological edge for the world's greatest Air Force"

Our Air Force executes diverse missions, faces evolving threats, and uses a range of technologies. No one-size-fits-all approach will assure success developing, delivering, supporting, and sustaining war-winning capabilities into the future. To maintain the technological edge, our technical workforce must adapt to new opportunities and AFMC/EN must be an agent for needed change and efficiency. As a headquarters staff, our mission is to help the command and its centers embrace and champion new perspectives, new approaches, and new tools to maintain our edge, while also evolving existing policies and processes. In a highly resource-constrained environment, this will require more rigorous prioritization and greater risk tolerance.

VISION

"World-class engineering and technical team ... digitally integrated, collaborative, trusted, and empowered ... driving policies and processes which accelerate the delivery of superior warfighting capabilities"

We continue to accelerate change across the Air Force, but advancements in integrated capability delivery cannot come fast enough. Digital modernization is increasingly important in addressing the growing multi-domain threat posed by the People's Republic of China (PRC). AFMC/EN must channel its expertise to embrace enablers, like DMM, and inspire the command's science and engineering workforce—from its most senior leaders to its most junior engineer and scientist—toward a bold future.

STRATEGY MAP

The elements of the HQ AFMC/EN Strategic Plan—including our mission, vision, cross-cutting attributes, commitments, LOEs, and objectives—are outlined in Figure 2.

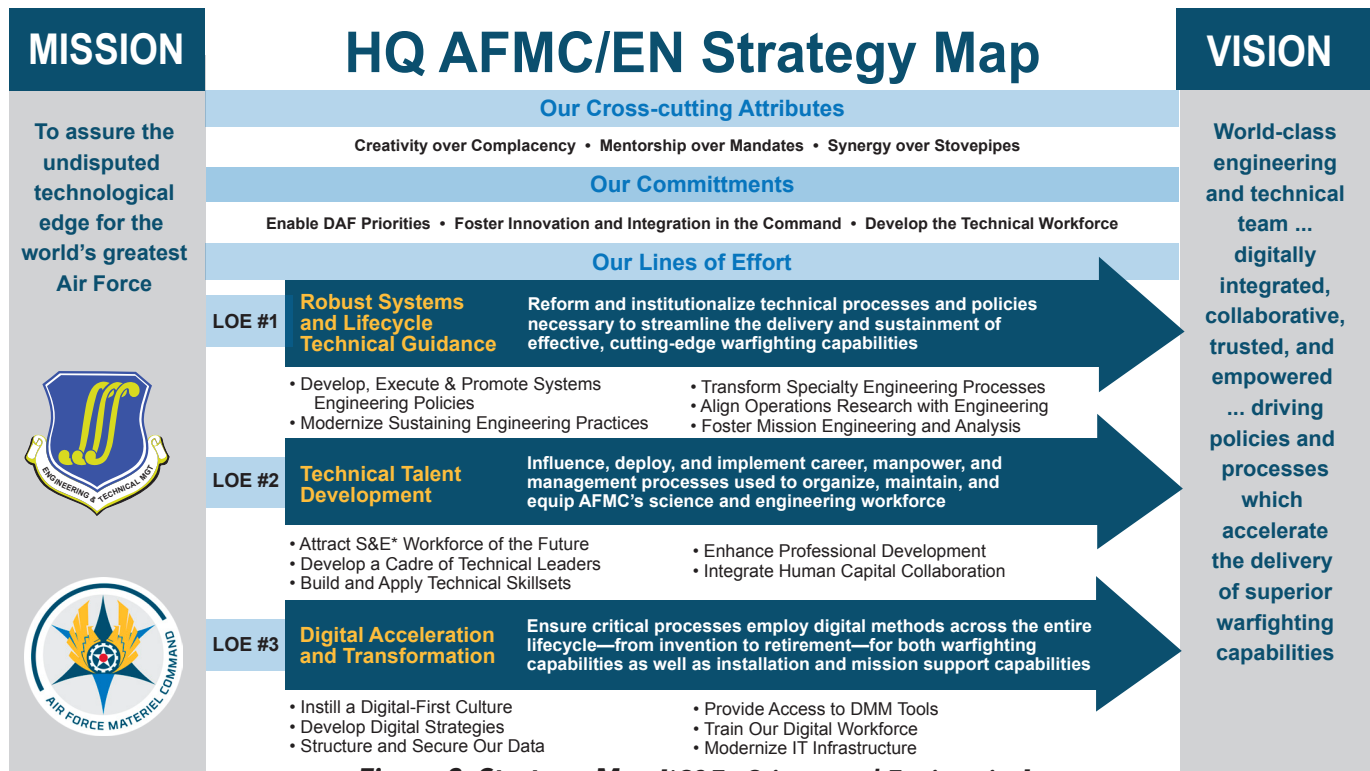


Figure 2: Strategy Map [*S&E - Science and Engineering]

DAF AND CENTERS ALIGNMENT

LOEs and supporting objectives align to the 2023 AFMC Strategic Plan, particularly as it relates to delivering integrated capabilities, revolutionizing our processes, and strengthening our team. This strategy is supported by a strong connection with the centers and SAF/AQ. Our desired effects map to the SecAF's Operational Imperatives and other leadership guidance, such as the former CSAF's Accelerate Change or Lose Action Orders.

CROSS-CUTTING ATTRIBUTES

As agents of change within “One AFMC,” there are several attributes our team must exemplify through our work if we are to change the way we do business and break down bureaucracy:

- Creativity over Complacency
- Mentorship over Mandates
- Synergy over Stovepipes

COMMITMENTS

In the June 2023 white paper, “An Accelerated Future State,” General Richardson, AFMC Commander, insists AFMC must break existing paradigms if we want to counter the PRC's pace and win. To deliver war-winning capabilities, our technical team must pivot away from lifecycle and functional stovepipes, antiquated processes, and inadequate teaming. We must hold ourselves and our team members accountable to the following principles:

- Enable DAF Priorities
- Foster Integration and Innovation in the Command
- Develop the Technical Workforce

LINES OF EFFORT

LOEs help to focus the organization's efforts and resources behind a desired effect and, in emerging areas, such as DMM, help align priorities and complementary activities across AFMC, its centers, and other stakeholders. This is a living document. LOEs will remain fixed for the foreseeable future, but objectives will evolve based on progress, impact, and lessons learned within AFMC and beyond.

LOE #1: ROBUST SYSTEMS ENGINEERING AND LIFECYCLE TECHNICAL GUIDANCE

Desired Effect: Reform and institutionalize technical processes and policies necessary to streamline the delivery and sustainment of effective, cutting-edge warfighting capabilities.

The Systems Engineering Division (AFMC/ENS) is responsible for the first line of effort: *Robust Systems Engineering and Lifecycle Technical Guidance*. From research and development to sustainment and disposal, AFMC/ENS provides expert technical oversight, strategic planning, and proactive risk management and program support to ensure that the Air Force's assets are mission-ready/capable, reliable, and cost-effective. The overarching intent of these objectives is to revolutionize these policies and processes to foster speed and agility while maintaining discipline and compliance with existing policy. Ultimately, we must deliver superior warfighting capabilities more quickly and effectively than our adversaries!

OBJECTIVES:

1.1 DEVELOP, EXECUTE AND PROMOTE SYSTEMS ENGINEERING PRACTICE

Provide (a) systems engineering policy awareness through education & training, (b) technical subject matter expertise on implementation guidance/queries from the field, and (c) technical implementation through independent assessments, working groups, and tool sets.

1.2 MODERNIZE LIFECYCLE AND SUSTAINING ENGINEERING PRACTICE

Transition and institutionalize revolutionary processes to deliver operational capability priorities and sustain our weapons systems much more efficiently and/or effectively. Focus areas will include Additive Manufacturing and Repair; Corrosion Prevention and Control; Modular Open Architectures; and Modeling & Simulation applications.

1.3 TRANSFORM SPECIALTY ENGINEERING PROCESSES

Revolutionize our processes and associated policies, whether they be existing or new. Emphasis will be placed on areas of vulnerability, such as Microelectronics and Systems Security Engineering, where we must ensure we maintain technological superiority over our adversaries.

1.4 ALIGN OPERATIONS RESEARCH WITH ENGINEERING

Enable programs to be more data-centric and analytically driven thereby achieving and maintaining decision advantage at every stage of the fight.

1.5 FOSTER MISSION ENGINEERING AND ANALYSIS

Build systems of systems and mission engineering capacity, applying modeling and analysis tools and engaging operational community through testing and experimentation to proactively assess and deliver solutions that are responsive to evolving threats and contribute to integrated mission capabilities.



LOE #2: TECHNICAL TALENT DEVELOPMENT

Desired Effect: Influence, deploy, and implement career, manpower, and management processes used to organize, maintain, and equip AFMC's technical workforce.

The Resource Division (AFMC/ENR) is responsible for the second line of effort: *Technical Talent Development*. Through talent management programs, professional development opportunities, and strategic partnerships with academia and industry, we will attract, retain, and develop the brightest engineering and technical minds to ensure that the command can effectively deliver capabilities at the speed of relevance. By fostering a culture of collaboration, and creativity, AFMC/ENR will inspire its workforce to push the boundaries of technological innovation and drive the Air Force towards new frontiers of technical excellence.

OBJECTIVES:

2.1 ATTRACT SCIENCE AND ENGINEERING WORKFORCE OF THE FUTURE

Inspire and develop exceptional science, technology, engineering, and mathematics talent through a continuum of opportunities to prepare our current and future DoD workforce to tackle evolving defense technological challenges.

2.2 DEVELOP A CADRE OF TECHNICAL LEADERS

Develop leaders able to create an environment where team members can professionally and personally thrive. Develop specific career progression guidance by technical discipline.

2.3 BUILD AND APPLY TECHNICAL SKILLSETS

Build a workforce that can deliver the right competencies at the right place at the right time, through communities of airmen with well-defined goals and well-maintained competencies. Incentivize and oversee provisioning of S&E talent to prioritized operational imperatives and delivery of integrated mission capability.

2.4 ENHANCE PROFESSIONAL DEVELOPMENT

Increase workforce development opportunities by providing access to a continuum of enriching technical education and workforce development programs, training, and experiential opportunities.

2.5 INTEGRATE HUMAN CAPITAL COLLABORATION

Integrate technical expertise across the Command to tackle emerging critical issues and resource initiatives that support Great Power competition.



LOE #3: DIGITAL ACCELERATION AND TRANSFORMATION

Desired Effect: Ensure critical processes employ digital methods across the entire lifecycle—from invention to retirement—for both warfighting capabilities as well as installation and mission support capabilities.

The Digital Transformation Office (AFMC/ENZ) is responsible for the third line of effort: *Digital Acceleration and Transformation*. AFMC/ENZ is responsible for planning, coordinating, and providing DMM solutions designed to help streamline processes, optimize resources, enhance operational efficiencies, and accelerate capability delivery. By leveraging state-of-the-art technologies, advanced data analytics, artificial intelligence, and automation, AFMC/EN will drive the Air Force towards a more agile, data-driven, and technologically advanced future.

OBJECTIVES:

3.1 INSTILL A DIGITAL-FIRST CULTURE

Make a culture shift to collaboration versus review, as DMM capabilities provide real-time interaction between government and industry.

3.2 DEVELOP DIGITAL STRATEGIES

Ensure programs and organizations share a common vision of applying digital-first strategies to their work across all functional disciplines.

3.3 STRUCTURE AND SECURE OUR DATA

Deploy data frameworks, formats, and reference architectures for MAJCOM lifecycle use.

3.4 PROVIDE ACCESS TO DMM TOOLS

Provide access to product lifecycle management tools, system and process modeling tools, design tools, and analytics tools across all functional disciplines.

3.5 TRAIN OUR DIGITAL WORKFORCE

Train the workforce to use and understand the power of DMM tools.

3.6 MODERNIZE IT INFRASTRUCTURE

Upgrade IT infrastructure (characterized by speed, agility, connectivity, and accessibility) to set the foundation for DMM progress across the MAJCOM.

SUMMARY

Foundational to “One AFMC” is a world-class engineering and technical team empowered to usher in integrated capabilities needed for tomorrow’s fight. This plan outlines LOEs and Objectives (the “what”) to realize that vision, including, *Robust Systems Engineering and Lifecycle Technical Guidance*, *Technical Talent Development*, and *Digital Acceleration and Transformation*. Detailed implementation plans and metrics (the “how”) will be used to demonstrate progress and ensure accountability.