

# TABLE OF CONTENTS

- 1 Foreword**  
Gen. Charles A. Flynn, U.S. Army  
*The commanding general of U.S. Army Pacific sets the stage for the wide variety of articles pertaining to space and missile defense assembled in this journal issue.*
- 5 Army Space Vision Supporting Multidomain Operations**  
Christine E. Wormuth, Secretary of the Army  
Gen. Randy A. George, U.S. Army Chief of Staff  
Sgt. Maj. Michael R. Weimer, Sergeant Major of the Army  
*The senior Army leadership provides their shared vision for Army space operations in support of ground force commanders.*
- 10 Introduction**  
**From Missile Defense to Missile Defeat**  
Lt. Gen. Daniel L. Karbler, U.S. Army, Retired  
*The U.S. Army Space and Missile Defense Command commanding general provides an informative introduction to this special edition of Military Review.*
- 18 How Army Air Defense Underpins the Military Component of Integrated Deterrence**  
Maj. Gen. Brian W. Gibson, U.S. Army  
Maj. Seth Gilleland, U.S. Army  
*Peer and near-peer adversaries in the Indo-Pacific have embraced antiaccess/area denial strategies. In response, the United States has adopted a whole-of-government strategy for integrated deterrence in the region, and Army ground-based air defense plays a specific and crucial role within the military aspect of that strategy.*
- 22 The Russia-Ukraine Conflict Laboratory**  
**Observations Informing IAMD**  
Col. Todd A. Schmidt, PhD, U.S. Army  
*The author discusses lessons learned from the ongoing conflict in Ukraine regarding integrated air and missile defense as it pertains to the warfighting functions as well as to large-scale, multidomain combat operations.*
- 32 Bayraktars and Grenade-Dropping Quadcopters**  
**How Ukraine and Nagorno-Karabakh Highlight Present Air and Missile Defense Shortcomings and the Necessity of Unmanned Aircraft Systems**  
Capt. Josef "Polo" Danczuk, New York Army National Guard  
*Two of the most recent conflicts provide numerous examples of how modern militaries are fighting with unmanned aircraft systems and how they are capitalizing on the use of those systems through information operations.*
- 45 A Collective Overview of IAMD through the Fifteenth 3AF International Conference on Integrated Air and Missile Defense**  
Lt. Col. Emmanuel Delorme, French Air Force, Retired  
Yannick Devouassoux  
Luc Dini  
*Participants from seventeen countries gathered to discuss air and missile defense from a political, military, and industrial perspective at the fifteenth Association Aéronautique et Astronautique de France Integrated Air and Missile Defence Conference in Porto, Portugal.*
- 55 Integrated Air and Missile Defense Security Cooperation in the Indo-Pacific**  
Col. Lynn Savage, U.S. Air Force  
Capt. Pat Connelly, U.S. Navy Reserve, Retired  
*Given China's ever-increasing long-range strike capability and its escalating provocative rhetoric and bellicose expansionist activity, U.S. Indo-Pacific Command has been developing IAMD strategies with its regional partners to counter the growing threat.*
- 61 Army Space Policy**  
**Past, Present, and Future**  
Maj. S. Lacey Dean, DLP, U.S. Army  
*Examining the past, present, and future of the Army space policy not only reflects the critical role the Army has played in space operations but also reveals the importance of continually updating and improving the Army space policy.*

# Space & Missile Defense Edition 2024

## 75 **The Army's Current Multidomain Inflection Point and Potential Lessons from the Early Space Race**

Lt. Col. Jerry V. Drew II, U.S. Army

*At the peak of its prowess in the military's early space efforts, new strategic realities required the Army to divest its space operations expertise, forcing it into an ancillary role in the Nation's space efforts. The Army faces a similar situation today.*

## 85 **Hypersonic Capabilities**

### **A Journey from Almighty Threat to Intelligible Risk**

Lt. Col. Andreas Schmidt, German Air Force

*Hypersonic capabilities are considered an emerging and disruptive technology, and the Joint Air Power Competence Centre, NATO's first and largest center of excellence, provides NATO with a team of multinational experts to give key decision-makers effective solutions to the air and space power challenges presented by hypersonic weapons.*

## 95 **Multi-Domain Effects Battalion**

### **Space Integration and Effects in Multidomain Operations**

Lt. Col. Joe Mroszczyk, U.S. Army

*The Army's primary formation for sensing and engaging across warfighting domains is the multidomain task force (MDTF). However, employing MDTF long-range precision fires from rockets or hypersonic missiles to hold targets at risk on the land or sea requires a deeper understanding of how space enables their success.*

## 104 **Modernizing Army Space** **The Need for Enlisted Space Soldiers**

Master Sgt. Kacee W. Love, U.S. Army

*Space operations officers (FA40) and borrowed military manpower are not enough to achieve success in the multidomain conflicts of 2030 and beyond. The Army requires a robust cadre of enlisted space professionals to perform space operations and guarantee success of space-enabled operations.*

## 112 **Operational Space Training across the Total Army**

Justin B. Miranda

*The joint force must clearly understand how its functions interconnect and how the space domain enables, and is critical to, multidomain operations. U.S. Army Space and Missile Defense Command and the U.S. Army Space Training Division are working to enhance and standardize space training operations and optimize space utilization in the Total Army's training and preparedness.*

## 121 **Reframing the Special Operations Forces-Cyber-Space Triad**

### **Special Operations' Contributions to Space Warfare**

Maj. Brian Hamel, U.S. Army

*Special operations forces core activities, normally conducted during irregular warfare, can create effects in the space domain by degrading the terrestrial-based, space-enabling infrastructure of our adversaries.*

## 130 **"Shield or Glue" Revisited** **Multinational Missile Defense Policy Variables**

Marxen W. Kyriss, PhD

*The author discusses how ballistic missile defense (BMD)-related policy variables can encourage or discourage a nation from joining a coalition or alliance that uses BMD as a core capability.*

## 141 **Enduring Threats and Enduring Presence**

### **Integrated Air and Missile Defense in the U.S. Central Command Area of Responsibility**

Col. Glenn A. Henke, U.S. Army

*The United States and its partners and allies face continual air and missile attacks from Iranian forces and their proxies in the U.S. Central Command area of responsibility, requiring robust integrated air and missile defense solutions.*