

EDITOR'S NOTE

The role of air power in a world increasingly driven by contestation and conflict continues to be debated and analysed. The impact of technology, artificial intelligence, space, cyber and unmanned systems pose their own challenges to manned aircraft, that many, including the likes of Elon Musk, question looking into the future. The ongoing Russia-Ukraine and Israel-Hamas conflicts have also challenged the precepts of air war in their own ways. From the fifth to the sixth generation of fighter aircraft, technology would have taken a quantum leap that inevitably would pave the way for autonomous warfare, minimising the influence of the human being or the pilot in the process. The relevance of air power, however, continues to grow with each passing year provided its employment is in consonance with the doctrinal precepts and the context of the conflict.

Artificial intelligence and machine learning have come to play a vital and important role in modern warfare. Their use can not only improve synergy and efficiency but also enhance the speed of decision-making, reduce manpower and operational costs apart from helping in carrying out predictive maintenance. The article on “Use of Artificial Intelligence for Improving Operational Efficiency in the Armed Forces” covers all these aspects in detail.

Maintenance Repair and Overhaul (MRO) services need to be synergised between the military and civil domains through national policies that would enhance national air power and work towards achieving *Atmanirbharta*. The use of techno-logistics and performance-based logistics would not only enhance the availability of platforms for operational use, but also increase efficiency. Inter-ministerial coordination between the Ministry of Civil Aviation (MoCA) and Ministry of Defence (MoD) through a dedicated

agency would help achieve this with ease. The article, "MRO: The Elephant in the Room of Air Power" takes a look at this issue and carries out a detailed analysis, giving some viable solutions.


The South Asian region has three major rivers—the Indus, Ganga and Brahmaputra—with its co-riparian states of India, Pakistan and China that have important stakes in the utilisation of water resources from these basins. "Indo-Pak Hydro-Conundrum Under the Red Dragon's Shadow" analyses China's hydro-hegemony and its collusion with Pakistan to threaten India through the Pakistan Occupied Kashmir (POK). Even though India has the Indus Water Treaty with Pakistan on sharing of water resources, Pakistan is faced with a huge water crisis that could lead to severe stress in the future. The article explores ways in which India could use its leverage through the water resources of these three rivers over both Pakistan and China.

The article on "Low-Tech/Lower Cost Solutions to High-Tech Problems" gives an overview of the historical application of low-cost and low tech solutions to deter or defeat adversaries with high technology used in warfare. Given the advantages of low-cost and low tech strategies, it lays down the offensive and defensive measures that the Indian armed forces can adopt against the vulnerabilities and limitations of a technologically adept and superior force like China.

China's nuclear strategy is based on 'No First Use', similar to the one adopted by India. China, however, has increased its defence spending and the modernisation of its nuclear arsenal with a revisionist strategy that shifts from its traditional nuclear strategy to a more aggressive approach. "Philosophy to Policy: Strategic Culture in Dragon's Nuclear Strategy" aims to draw a parallel between the strategic culture of China, with its core elements that enunciate a dualistic strategic culture, to the nuclear strategy of China that encompasses ambiguity in its deployment of conventional and nuclear weapons. It also explores the influence of leaders on the strategic culture of a state and its perception of the strategic culture of other states and its correlation with the nuclear strategy.

In the 'Book Review' section we review, "Political Drivers of China's Changing Nuclear Policy: Implications for US-China Nuclear Relations and International Security" by Tong Zhao, who argues that the political drivers as viewed by the world may not be external with respect to the United States, but the increasing political importance of nuclear weapons by the leadership of China.

This edition of the *Air Power Journal* features myriad articles ranging from the use of technology, water and artificial intelligence in warfare to the importance of MRO for national air power and the influence of strategic culture on the nuclear strategy of China. I hope the readers will enjoy the last edition of the Journal in 2024. Here's wishing you all a Happy New Year and Happy Reading.



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