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US Air Force to Develop Joint All Domain Operations Doctrine

On 5 March 2020, General David Goldfein, Chief of the United States Air Force, issued a Doctrinal Note to guide the development of Joint All Domain Operations by the service. Goldfein's note is a culmination of the growing recognition within the US military and Department of Defense in recent years of the importance of multi-domain operations caused by improvements in adversary capabilities and tactics as well as by technological developments. The Note is expected to pave the way for the development of a joint military doctrine that encompasses operations in all domains of future war including air, land, sea, outer space, cyber space, and the electromagnetic spectrum.

The essence of Goldfein's argument is that the stove-pipe approach of current doctrines, providing for a separate commander to direct operations in each domain of war, is not efficacious since it tends to delay integration thus limiting synergies between operations in various domains, creating vulnerabilities, and reducing the capacity to dynamically exploit opportunities. Instead, commanders, regardless of their service affiliation or domain responsibility, should be enabled to leverage forces and capabilities from all domains for achieving strategic, operational and tactical objectives.

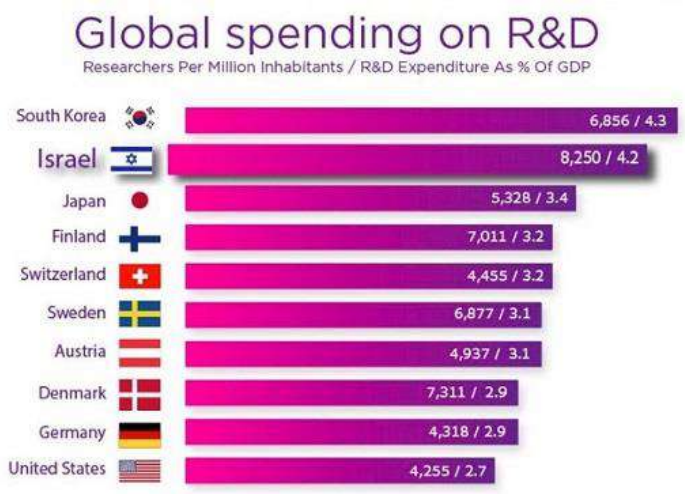
Such a change requires a paradigm shift in both the planning and execution processes, with commanders considering all domains from the beginning of the planning process and "empowered to coordinate dynamic all-domain retasking" during execution. However, a central challenge would be the conversion of a large amount of data from multiple sources into actionable intelligence so that leaders are able to act correctly after. The goal of Joint All Domain Operations is "to achieve convergence of effects across all domains", thus presenting the adversary with a lose-lose option irrespective of which course of action it chooses.

South Korea's New Defence R&D Law

To transform defence technological innovation, the National Assembly of the Republic of Korea passed the Defense Science and Technology Innovation Promotion Act on 6 March 2020. The Act is likely to be promulgated into law after Cabinet approval. In the assessment of the country's Minister of Defense Acquisition Program Administration (DAPA), the Act would enable South Korea to prepare for "rapidly changing future battlefields featuring Fourth Industrial Revolution technologies."

Three important features of the Act are: One, it prescribes an open research and development system to enable government and private entities to work together to develop new military technologies. Two, it provides for joint ownership of intellectual property rights as well as incentives for small and marginal companies in national

collaborative projects. And three, it undertakes to recognise and reward "successful failures" through a new "performance recognition system", thus encouraging domestic entities to spend on research and development without being unduly concerned about immediate success.



South Korea has the distinction of having the highest R&D intensity in the world. That is, it spends a higher proportion of its GDP (4.55 per cent in 2017) on research and development than any other country. In its 2020 budget, the country has earmarked USD 3.3 billion for research and development, which sum represents 7.78 per cent of the total defence budget.

Since the creation of DAPA as an integrated agency to facilitate centralised defence acquisition and foster domestic defence industry, South Korea has been making noticeable progress in the defence industrial sector. Today, DAPA's R&D unit, the Agency for Defense Development (ADD), is collaborating with domestic defence companies to develop the next generation of multirole combat aircraft, attack helicopters, missile systems, etc.

PLA Navy Enhances Force Projection Capabilities

China is set to launch its second Type 075 amphibious assault ship within a year of the first on 25 September 2019. A third in the series is also expected to be launched from the same dock in the future.

The Type 075 is reported to have a carrying capacity of upwards of 1,000 troops and deploying them through landing craft for amphibious operations. Its capacity to embark up to 30 helicopters of various types would be useful for surface attack, anti-submarine missions, and provision of support for amphibious landing operations. In addition, the ship can also serve as a mobile command and control centre during operations.

Even as it is vigorously expanding its amphibious operations capability, the PLA Navy is also engaged in modifying the JL-9 Mountain Eagle trainer jet to make it suitable for training pilots in aircraft carrier-based operations. Until now, the service has been utilising this aircraft as a land-based jet trainer for its aircraft carrier pilots.

With its second aircraft carrier, the Shandong, joining service in December 2019, the PLA Navy needs to train more pilots with more efficiency. For this, it needs a trainer aircraft that can operate on a carrier instead of on a simulated airfield in order to substantially reduce training time and cost.

For carrier-based fighter operations, the PLA Navy currently operates the Shenyang J-15, a Chinese derivative of the Sukhoi SU-33. Going forward, the PLA Navy is expected to operationalise the Shenyang FC-31, a fifth-generation jet fighter that is currently under development, as its mainstay for carrier-based fighter operations.

US-UAE Exercise Nature Fury 2020

The United States and the United Arab Emirates conducted the seventh edition of their bi-annual exercise "Native Fury" from 8 March 2020. Suspended for seven days following the accidental death of a US Marine during deployment on 10 March, the two-week-long exercise was resumed on 18 March.

From the American side, Native Fury saw the participation of troops from US Marine Forces, Central Command and I Marine Expeditionary Force (I MEF). The exercise was consequently designed to train I MEF in maritime prepositioning force operations and "validate joint logistics over the shore capabilities in coordination with the U.S. Army". More generally, it aims to increase proficiency, enhance maritime capabilities, and promote interoperability between US and UAE forces through live fire and manoeuvre training, ship-to-shore offloads of personnel, equipment and humanitarian resources, and the movement of logistics convoys across the UAE.

Deepening defence relations between the US and UAE comes against the backdrop of an increase in shared regional concerns including over Iran, the Islamic State and other terrorist groups. America also maintains a robust military in the UAE in the form of some 5,000 personnel and advanced combat aircraft such as the F-22. For its part, the UAE has demonstrated during the past decade its ability and willingness to employ military force to combat threats beyond its boundaries including in Somalia, Syria and Yemen. Native Fury helps maintain the preparedness of its armed forces in the face of persistent regional instability.