

Combat ISTAR

By Air Commodore Stuart Evans

“Combat Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR)” is a new philosophy that describes the integrated employment of air, space and cyber systems to deliver assured Intelligence and Situational Awareness (ISA) in contested environments and may be complemented by the coincident delivery of kinetic and influence effects. It is a capability that is the product of an amalgam of multi-role, survivable and responsive systems and, by definition, breaks the convention of associating airpower roles with specific platform types.

Introduction

Background. One of the enduring lessons of current operations is our key dependency on Command, Control, Communications, Computing (C4) ISTAR for the delivery of kinetic and influence effects. Advances in the provision of ISA throughout the Joint Force have been transformational, and this enhanced information flow across the battle-space is now a fundamental part of the way we conduct operations; it provides a significant asymmetric advantage. However, we will not always benefit from a benign air environment or the ground holding advantages we have enjoyed in both Iraq and Afghanistan. These have allowed us to develop fixed in-theatre C4ISTAR architectures and a level of air ISTAR over-watch that we may be unable to replicate in future operations in more contested air, space and surface environments.

Requirement. The Future Air and Space Operational Concept envisages the future Operational Environment as, *“expeditionary, of varying endurance and intensity, and typified by the multiple challenges of littoral-urban complexity, target discrimination, Computer Network Operations (CNO) and integration with Joint, Inter-Agency and multinational capabilities.”*¹ Furthermore, the blurring of conventional and irregular threats lies at the heart of the increasing incidences of ‘hybrid warfare’, fought against low signature adversaries, with access to sophisticated technology, operating in complex terrain, able to adapt quickly and consequently present fleeting targets. To meet these challenges, there will be an ever-greater requirement to deliver assured information superiority across a whole range of contested and uncontested operating environments. This will require multi-intelligence understanding of the physical and human terrain we are operating within, which in turn will demand the effective fusion and networking of joint ISTAR capabilities, including the exploitation of cyberspace.² In airpower terms, the future operational environment points to ever-greater interdependence between airpower roles, particularly: Control of the Air, ISA, and Attack.

Airpower makes a key ISTAR contribution, it is able to maximise its comparative advantage in the third and fourth dimensions to direct, collect, process, disseminate and exploit information in order to enable intelligence-led actions.³ Legacy thinking, however, associates the role of airpower with specific platform types and unhelpfully masks Air’s broader ISTAR contribution. For example, fast jets are associated with the role of attack and control of the air, large aircraft with combat support functions and support helicopters viewed as purely providing tactical manoeuvre. Typecasting specific platforms with individual roles hides their utility and distracts us from the potential that could be unlocked with the application of future technologies.⁴ A new paradigm is required to convey the full utility of platforms and their broader ISTAR contribution.

Definition. Combat ISTAR is a new philosophy that seeks to break legacy thinking that associates the roles of airpower with specific platform types. The term Combat ISTAR conveys the wider ISTAR contribution and potential of various platforms, and the requirement for information superiority in current and future conflict. Combat ISTAR encompasses three

separate, but interdependent, roles of airpower - Control of the Air; Intelligence and Situational Awareness; and Attack - and applies a systems approach to deliver more than the sum of the parts. Combat ISTAR emphasises and exploits the increasing blurring of the edges between these airpower roles, without challenging their primary purpose. Combat ISTAR is defined as **the provision of assured Intelligence and Situational Awareness derived from the synergistic employment of networked air, space and cyber systems in complex and contested operating environments, potentially in tandem with responsive kinetic and influence effects.**

CNO is a vital component of Combat ISTAR. Computer Network Exploitation will provide a key source of ISTAR 'take' across all operating environments, while Computer Network Defence is crucial to the information assurance upon which our ability to gain information superiority rests. In the context of Combat ISTAR, this information assurance has a particular relevance to our dependence on space capabilities to provide the positional, navigation timing and targeting information upon which our joint effects increasingly depend, as well as the likely future need for space-based surveillance as a central component of assured Combat ISTAR.

Combat ISTAR provides insight for the Military, Other Government Departments and Non-Governmental Organisations, helping to synchronise, inform and support multiple lines of operation within the Comprehensive Approach. Although described in airpower terms, Combat ISTAR has wider application across a range of Joint and 'Whole of Government' intelligence and surveillance capabilities. Combat ISTAR is at the heart of ongoing RAF transformation and, as a technologically based service with a tradition of networking, driven by the particular requirement of air operations for timely information, the RAF is well placed to assist with the wider integration and governance of Joint and 'Whole of Government' ISA capabilities.

Conclusion. Combat ISTAR, and the assured understanding it brings, is an essential prerequisite of success for current and future operations, which increasingly rely on the provision of ISA throughout the Joint Force. This information flow is a fundamental part of the way we conduct operations. However, we will not always benefit from an air and ground environment that permits the utilisation of fixed surface C4ISTAR facilities and relatively vulnerable air ISTAR assets to provide much of this ISA. We must therefore shape the Joint Force to allow the employment of these ISTAR effects in the less permissive, more complex and contested surface and air environments envisaged in FASOC. Air and space power will be central to the attainment of an assured capability. However, we must not be constrained by legacy thinking,

which hinders the flexible use of our platforms and systems. The Royal Air Force will develop a more flexible and agile force structure capable of Combat ISTAR operations across the full range of operating environments. It will maximise the delivery of assured effect, made possible by the manoeuvre advantage enjoyed by air, space and cyber assets.

Notes

¹ DCDC, *Future Air and Space Operational Concept 2009*, Aug 2009, P1-5.

² Gaining genuine understanding across the physical, social and cyber environments requires multi-int fusion across GEOINT, IMINT, MASINT, OSINT, SIGINT and HUMINT disciplines.

³ Chief of the Air Staff, *Dominant Air Power in the Information Age – The Comparative Advantage of Air and Space Power in Future Conflict*, IISS Address, 15 Feb 2010.

⁴ DCDC, *Future Air and Space Operational Concept 2009*, Aug 2009, P2-1.

This article has been republished online with Open Access.

Ministry of Defence © Crown Copyright 2023. The full printed text of this article is licensed under the Open Government Licence v3.0. To view this licence, visit <https://www.nationalarchives.gov.uk/doc/open-government-licence/>. Where we have identified any third-party copyright information or otherwise reserved rights, you will need to obtain permission from the copyright holders concerned. For all other imagery and graphics in this article, or for any other enquires regarding this publication, please contact: Director of Defence Studies (RAF), Cormorant Building (Room 119), Shrivenham, Swindon, Wiltshire SN6 8LA.

 **ROYAL
AIR FORCE**
**Centre for Air and
Space Power Studies**

OGL