

# **CLOSING THE GAP-DEVELOPMENTS IN TACTICAL UAS TECHNOLOGY AND THE POTENTIAL IMPACT ON MALE UAS OPERATIONS**

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## **Abstract**

This paper addresses developments in the technologies found in tactical-level Unmanned Aircraft Systems (UAS) and how these may enable such systems to undertake missions that were previously allocated to medium-altitude, long-endurance (MALE) UAS only. For the purposes of this paper 'tactical' refers to Group 3 UAS (e.g. RQ-7B Shadow) under the US Department of Defense designation, while MALE UAS are those largely characterised as Group 4 (e.g. MQ-1C Gray Eagle), although it is recognised that in some instances the lines between these classifications are somewhat blurred. It will argue that continuing developments in tactical UAS technology are expanding their mission sets, and posits that improved engines, enhanced payloads, new communications systems and the introduction of small munitions will enable them to squeeze the mission space occupied by MALE systems, which may ultimately lead to less dependence on these larger and more expensive (to procure, operate and maintain) UAS. The paper does not provide a comprehensive overview of existing and next-generation tactical UAS, instead, examples of platforms, their subsystems, and payloads will be presented in support. Further, the paper contends that the widening mission sets of tactical UAS will enable armed forces to better target their resources whilst maintaining operational effectiveness.