

Impact of NGATS on Unit Combat Power

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Abstract: This study analyzes how the Next Generation Automatic Test System (NGATS) can decrease the turnaround time (TAT) in maintenance for Brigade Combat Teams (BCTs) conducting multi-domain operations by enabling fix-forward testing. Modern warfare requires complex weapon systems, making field-level electronic maintenance an essential Army function. The NGATS, a multi-platform tester, enables units to conduct field-level rather than sustainment-level maintenance on a diverse set of platforms, therefore reducing the requirement for the evacuation of equipment out of theater. This study utilizes a discrete event simulation in order to determine the effect of NGATS implementation at varying levels and locations on a BCT's TAT. The simulated TAT values are then used as inputs to a mathematical model of Combat Power—a doctrinal measure of Army readiness. Initial results show that fixing NGATS forward at the Brigade level decreases TAT and increases a unit's Combat Power.

Keywords: Next Generation Automatic Test System (NGATS), Turnaround Time (TAT), Discrete Event Simulation