



Adaptive Cycle Engine

GE Aviation's revolutionary Adaptive Cycle Engine (ACE) is designed to increase combat aircraft thrust by up to 20%, improve fuel consumption by 25% to extend range by more than 30%, and provide significantly more aircraft heat dissipation capacity.

Fixed-cycle engines powering today's aircraft are designed for either high thrust or high fuel efficiency, which penalizes aircraft performance. GE's ACE engine is optimized across the flight envelope, employing higher bypass for greater fuel efficiency or lower bypass for higher thrust when required. These adaptive features are coupled with an additional stream of cooling air to improve fuel efficiency and dissipate aircraft heat load.

Capitalizing on a joint GE/U.S. Government investment of more than \$1B, the ACE engine will incorporate the industry's most extensive use of both heat-resistant

materials and additive manufactured components developed for GE/CFM International commercial engines.

GE tested the industry's first and only three-stream adaptive cycle engine in 2014, followed by successful completion of its Adaptive Engine Technology Development (AETD) Preliminary Design Review in March 2015. These followed the highly successful Adaptive Versatile Engine Technology (ADVENT) program, where GE reached the highest combined compressor and turbine temperatures in the history of jet engine propulsion.

GE has partnered with the U.S. Department of Defense to cost-effectively design, manufacture and test this revolutionary concept since 2007, and plans to continue enhance ACE design through the Adaptive Engine Transition Program (AETP). The AETP contract award is anticipated in 2016.