Connecticut Center for Advanced Technology, Inc.

Potential Supply Opportunities for Low-Cost Small Turbine Engine Components

Outreach to cross-industry sectors of the U.S. Manufacturing Supply Chain to increase the capacity to deliver metal parts for low thrust (less than 2,000 lb_f) turbine engines.

Under sponsorship of the Air Force Research Laboratory – AFRL

Led by Third Wave Systems

Partners

Connecticut Center for Advanced Technology, Inc.
Affordable ManTech Solutions

Introduction

- The United States Air Force (USAF) desires to expand the U.S. supply chain capacity to manufacture metal components for small turbine engines with less than 2,000 lb_f thrust. The components of interest are CNC machined parts made of exotic metals and alloys (Inconel, Ti, Hastelloy, stainless steel, others). Parts may include compressor wheels, bearing housings, outer housings, radial compressors, blades, turbine nozzles.

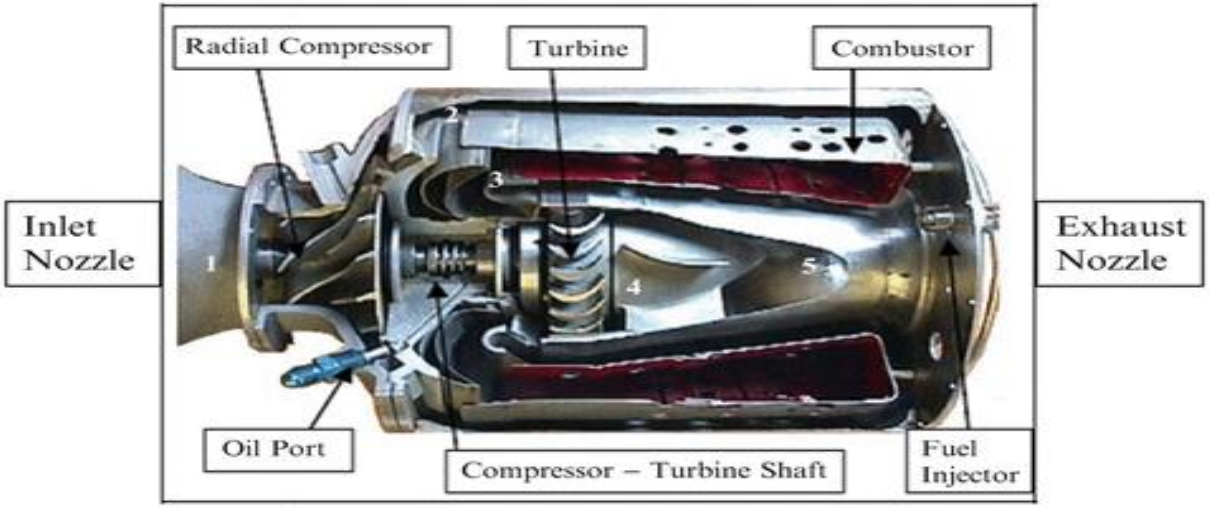
- The goals are to reduce cost and delivery schedules by optimizing the machining process cycle times and standing-up additional supply chain companies capable of machining and delivering such components. The USAF project team that is working to achieve these goals includes Third Wave Systems (lead), Affordable Mantech Solutions, and Connecticut Center for Advanced Technology. The project team will work with USAF to prioritize the specific parts of interest and to engage U.S. supply chain companies.

Outreach to Candidate U.S. Supply Chain Companies

- The USAF project team will engage small-medium size manufacturers (SME) as well as OEMs in the U.S. to identify aerospace companies that already produce these components and similar components of interest, as well as additional companies, not limited to traditional aerospace manufacturers, that are deemed capable of producing the parts. The prevailing manufacturing processes currently used by the part manufacturers will be examined for opportunities to reduce delivery times and cost using state-of-the art software tools for cycle time optimization.

- Additional manufactures and manufacturing organizations across the U.S. covering cross-cutting industries, will be surveyed. The project team will identify manufacturing supply chain companies that are ISO 9001 or AS 9100 (or other recognized quality management system) compliant and are deemed to have the capability and capacity to produce the parts of interest, but do not supply these parts at present.

- The team will assess the capability and willingness of candidate companies to become suppliers for the selected parts and the team will help establish the manufacturing processes for those companies. It is desirable to establish suppliers across various industry sectors, across broad geographic locations in the U.S., and in close proximity to where the parts are needed. The goal is to down-select candidate additional supply chain companies that the project team can work with to establish optimized, low-cost machining processes to produce the small engine parts of interest.



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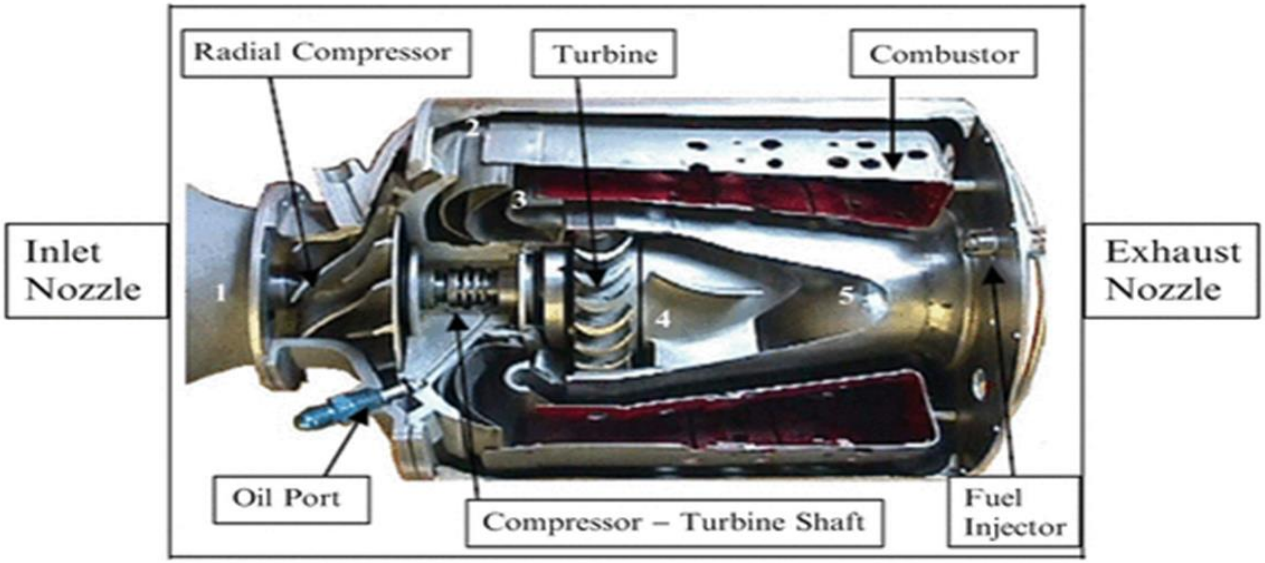

Supply Chain Opportunity for Small Turbine Engines

If interested go to https://sep.ccat.us

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