Diversified Technologies, Inc. Introduces Atmosphere-Refueling Magnetic Induction Plasma Engine (AR-MIPE) that Eliminates the Need for Heavy Fuel Payloads from Earth

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The AR-MIPE will be able to support long-term interplanetary exploration missions by eliminating the need to carry heavy fuel payloads from earth.

A new spacecraft engine powered by in-situ propellants that provides enhanced in-space maneuverability and greater payload capacity is being developed by Diversified Technologies, Inc. (DTI).

BEDFORD, Mass., Jan. 3, 2024 /PRNewswire-PRWeb/ -- Diversified Technologies, Inc. (DTI) has introduced a new spacecraft engine powered by in-situ propellants that provides enhanced inspace maneuverability and greater payload capacity.

The Atmosphere-Refueling Magnetic Induction Plasma Engine (AR-MIPE) provides high thrust at specific impulse without the need for electrodes, vastly extending thruster life and permitting the use of low cost in-situ propellants. The 100 kW electrodeless inductive thruster which ionizes propellant and accelerates electrons and ions to great velocities is a significant paradigm shift in propulsion technology for space travel because it eliminates the need to carry heavy fuel payloads from earth.

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Very efficiently converting energy into thrust that can move a spacecraft in tiny increments for extended periods of time, the basic geometry of the AR-MIPE is a tubular linear induction motor with phased coil-excitation. By employing an electrodeless inductive thruster which minimizes plasma-wall interactions and by capturing and storing propellants available throughout the solar system as fuel, the AR-MIPE will be able to support long-term interplanetary exploration missions.

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DTI is the developer and manufacturer of solid state power supplies, pulse modulators, and high voltage, high power equipment.