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LIGHTER-THAN-AIR AIRBORNE WIND TURBINES IN THE MILITARY MARKET

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Altaeros Energies is developing an airborne wind turbine based on lighter-than-air technology. The Altaeros 100 kW turbine is targeted at displacing diesel consumption on remote sites – namely isolated communities, island nations, mining and logging sites, and military bases. Any military solution must be mobile, durable, autonomous, and have no impact on the mission at hand.

The Altaeros turbine is designed to meet these requirements. In order to provide lift, the system uses a buoyant shroud initially deflated for transport. Components such as nacelle and blades are integrated into the shroud after its initial inflation. The base station winches and tethers are also constructed to be portable. This solution allows remote sites to relatively quickly take advantage of high altitude wind resources and avoids the complicated logistics and installation requirements of other ground-based renewable energy technologies.

The solution also leverages existing helium distribution networks and operational know-how inherent to the military as it operates and services the aerostats already deployed in combat zones for surveillance and communication applications.