# Conceptual Investigation of a Hybrid Electric Regional Airliner

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This project re-imagines and investigates an 80-100 passenger aircraft as a hybrid electric airplane powered by distributed electric propulsion (DEP). The BAE 146 was used as a baseline for this study, featuring a blown wing with several electric motors distributed along the wingspan, resulting in higher lift than with conventional wings for a given airspeed. The inspiration for this project was derived mainly from NASA's LEAPTech (Leading Edge Asynchronous Lift Technology) Program, currently in the testing phase. The airplane's mission phases were analyzed first, and then with the addition of electric motors, and the results were compared. The idea of this project is to illustrate the potential of electric powered airplanes, and their advantages in reducing takeoff & landing distances, as well as kinetic energy compared with conventional airplanes, which will improve safety. Additionally, significant reductions in emissions will result, particularly at and near airports.