Manned Electric Aircraft 2016-2031

Description: This report of over 135 slide format pages is replete with new forecasts, analysis and infographics seeing the future. The key parts of recent presentations by all the key players are embedded in this work, almost entirely researched in 2016 by award winning PhD level analysts travelling worldwide. Interviews, databases, web searches and conference attendance were extensively used. Old information is useless in this now fast moving field.

The structure of the report is a comprehensive Executive Summary and Conclusions then Introduction looking at lessons from the past then chapters on types of powertrain involved, motors and motor generators, energy storage, energy harvesting and regeneration, the end game of Energy Independent Electric Vehicles (EIV) and finally More Electric Aircraft (MEA) programs and how they are migrating to electric aircraft. Throughout there are many examples of electric aircraft from airships to helicopters and microlights, both for sale and planned. Specifications are given for many of these and key components for the future are discussed in depth. The tone is critical not evangelical.

The coverage in the report includes 2016-2026 forecasts of low and high priced electric aircraft sales by number, unit price and market value and a view of figures up to 2031 including assessments by several leading players. The subject matter includes looking at how electric aircraft have largely followed electric land and water vehicles. Pure electric small ones appeared first, about 50 years after the first electric boats and cars. Hybrid ones are needed for the longer distances and tougher duty cycles and only now are these getting serious investment.

The report finds that the delays are only partly explained by the tougher demands and regulatory requirements of aircraft and how things are now changing with much larger commitments. In 2016, Siemens and Airbus agreed to pool 200 engineers to work on them, the level of effort Toyota allotted to hybrid cars twenty years earlier, with major commercial success resulting today.

Toyota enjoys well over $20 billion dollars of sales of electric cars, buses and forklifts with Honda and BMW successful too - interesting because all three are now tackling aircraft. Indeed, Google and Facebook are involved in electric cars and aircraft and Apple is interested so it is wake up time. The report analyses the opportunities in new aircraft and their changing key components.

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