

## **Preliminary Study of Emissions Regulation Effects on Future Commercial Aircraft Designs.**

### **ABSTRACT**

Conventional aircraft designs have long been highly successful for commercial passengers transport markets. In recent years, there are researches carried out to explore a few revolutionary concepts such as the blended wing body. With expected stricter environmental regulations to be imposed by the aviation regulatory bodies for future flight operations, questions arise on the relevancy of conventional aircraft designs to remain competitive in years to come and on whether the search for new revolutionary aircraft designs has become necessary. This study aims to assess the situation by analyzing the projected emission performance of conventional aircraft designs through changes of their parameters. Overall, the results indicate that conventional aircraft designs face a tough chance to remain competitive when the proposed regulation takes place and a more aerodynamically efficient design is necessary.

**Keyword:** Aircraft design; Emissions; Fuel efficiency