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The 50 Most Important Parameters of the 60 Most Used Passenger Aircraft

Purpose – This project creates a database of more than 60 passenger aircraft types, which are most in use (based on in-service data from 2020). The aircraft are characterized by the most important 50 parameters.

Methodology – Almost all parameters were retrieved from manufacturer's documents for airport and maintenance planning as well as from EASA and FAA type certificate data sheets. Numbers were uniformly converted to SI units or aviation units (nautical mile, knot, feet / flight level).

Findings – In 2020 many aircraft were in storage, but got also considered here. The Boeing 737-800 and the A320ceo account already for a 30% share of the market. With 60 aircraft types more than 95% of existing passenger aircraft are covered. The database contains general parameters, overall dimensions, parameters from the engine, cabin, fuselage, landing gear, wing and tail. In addition, fuel tank volume, mass, range, and parameters from cruise flight are available. (Figure 1)

Research Limitations – For aircraft still in development, certificate data sheets and manufacturer's data will be available only after certification.

Practical Implications – The database is convenient for general use. It is available in Excel and HTML. The Excel table can be used to calculate further values and to easily add parameters.

Originality – The well known database from Jenkinson et al. is from 2001. This new approach includes recent aircraft types and shows its data sources.

This informative poster is based on a student project with the same title. Details here: https://nbn-resolving.org/urn:nbn:de:gbv:18302-aero2022-10-01.013
Figure 1: Aircraft database in Excel.

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