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# Data Science in Aerospace

## *Project - Airport Operations*



## Project

In this project, we are looking at efficient boarding procedures that can minimize the time passengers spend entering the aircraft, which directly reduces overall boarding time. This contributes to more sustainable operations for airlines while maintaining safety standards.

The data collected<sup>1</sup> requires an analysis on whether the average boarding time of different aircraft types was improved after a specific airport started testing a new boarding system. Data processing and analysis must be made using Python.

## Tasks

1. Design a preprocessing phase for data inconsistencies.
2. Describe the obtained sample using descriptive statistical tools.
3. Test the normality of data.
4. Conduct comparison tests of the means and variances for the average boarding time before and after the new system has been implemented, assuming normality if necessary.
5. Conduct further analysis that you believe could enhance the analysis's value.
6. Prepare a final report<sup>2</sup> that must include the following sections:
  - (a) The objectives of the study
  - (b) The methods used
  - (c) Results and discussion
  - (d) Conclusion and recommendations
  - (e) References
  - (f) Attachments
    - Must include the Python code developed for the analysis
    - When using AI tools, add a section called *Declaration of Use of AI and AI-Enhanced Technologies* with the following statement:

*“During the preparation of this report the author(s) used [NAME TOOL / SERVICE] in order to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the present report.”*

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<sup>1</sup>Data for this project was artificially generated.

<sup>2</sup>Plagiarism will invalidate the project's contribution to the evaluation. Upon submission, authors are required to disclose the use of generative AI in the project's writing. AI tools should be employed solely within the writing process to enhance readability and language proficiency.