

**2023 FAA DATA CHALLENGE
FINALIST DELIVERABLES EVALUATION CRITERIA & REQUIREMENTS**

TECHNICAL PAPER EVALUATION CRITERIA

Approach = 45%

- Do significant aspects of the proposed concept directly address the theme?
- Has the submission proposed a logical and workable solution and approach to solving the problem(s)?
- Has the team provided details that identify how the improvements, changes, and/or related activities of the proposal can be implemented in a practical manner?
- Has the submission clearly described the depth of integration required to implement the innovation, idea, or proposed concept?
- Is sufficient descriptive information provided that would allow the work to be reproducible and transferrable?
- Has sufficient detail to demonstrate the use of Artificial Intelligence/Machine Learning (AI/ML) and advanced analytics.

Need/Benefit = 45%

- Has the submission presented a clear understanding of the associated problems being addressed?
- Has the submission clearly defined the direct beneficiaries of this concept and the breadth of impact of the various components of the innovation?
- Has the submission provided details identifying how the concept directly provides a benefit?
- To what extent does this project have the potential to make a significant impact and/or contribution?
- Has the submission provided information on how likely the concept will be accepted and easily used?

Originality = 10%

- To what extent is this concept new, or in what way is this an innovation on an existing idea?
- How is this concept unique? Novel? Outside the box thinking?
- Was the problem a challenging data science one?
- How did the team members' experiences inform the proposed concept?

TECHNICAL PAPER FORMAT REQUIREMENTS

Technical papers should adhere to the following formatting specifications:

- 20-page maximum

- Judges are not obligated to look at anything beyond the 20-page limit, and submission of a Technical Paper beyond this page limit will be considered non-compliant.
- Cover Page, Quad Chart, Executive Summary, Table of Contents, and Appendices will not count toward the page limit.
- Appendices are to be used for references and calculations only.
- Submit as a single PDF file
 - File size cannot exceed 100 MB
- Single spaced and single column
- Standard 1” margin on each side
- 11- or 12-point font size
 - Charts, graphs, captions, etc. may use a 10-point minimum font size.
- Use common fonts for text (i.e., Times, Times New Roman, Helvetica, or Arial) and Symbol for mathematical symbols and Greek letters.
- Include page numbers

TECHNICAL PAPER CONTENT REQUIREMENTS

The Technical Paper should fully describe the team’s concept and must include the following sections:

- 1. Cover Page***
 - University name
 - Project title
 - Industry partners (if any)
 - Full names of all team members (including faculty and industry advisors)
 - Major course of study for each student
 - Academic level of each student (undergraduate or graduate) Graphic or Image of concept
- 2. Quad Chart***
 - Template provided
 - Insert as an image into paper
 - The title of the project with an image/graphic of the concept
 - Objective, Description of Effort, and Technical Approach
 - Key Findings/Potential Benefits (i.e., how the proposed solution impacts the passenger’s experience in a smart airport environment)
 - Schedule and Cost
- 3. Executive Summary***
 - An overall summary of the innovation which includes a title of the project, a one paragraph synopsis of the problem statement, the problem-solving approach, and a

statement of the potential innovative impact the research concept will have on the problem.

4. Table of Contents*

5. Body of Report (20-page maximum)

- **Problem Statement and Background**
 - Challenge being addressed and its relationship to Challenge categories

- **Solution Definition**
 - Description of the solution explored. The team should demonstrate a clear understanding of the issues surrounding the challenge as well as the current conditions and state-of-the-art approaches to seeking solutions. Include a description of Artificial Intelligence/Machine Learning (AI/ML) and advanced analytics approaches as appropriate.
 - The team should describe in reasonable detail the concept lifecycle, including all design assumptions, and address development, testing, and implementation. What would it take to make the concept ready for users?
 - The team should consider inherent risks and describe how these risks would be addressed to ensure safe and efficient operations and execution. The team should address physical and cyber security, where appropriate.
 - The team should address the impact on the passenger experience, commercial potential for the solution(s) presented and expected benefits compared to costs to implement.
 - The team should include visual (i.e., photos/drawings) and written descriptions of any relevant parts, where appropriate, as well as explanations behind design decisions.

- **Methodology**
 - Describe what type of data you used or collected
 - Describe and/or provide a diagram of the techniques and processes used for the analysis including how you were able to leverage AI/ML
 - Describe your testing process
 - Describe any challenges you faced and how you mitigated them

- **Conclusions/Key Findings**
 - What conclusions are you able to draw about the problem and your analysis?
 - Did you accomplish what you set out to prove? Why or why not?
 - What did you learn throughout the process?

- What improvements could be made to eliminate or mitigate some of current challenges?
- **Appendices***
 - Appendices should be for references only. It is important to note that the judges are not obligated to consider lengthy appendices in the evaluation process. Teams can include any supplements around how their analysis was conducted and any visualizations from their analysis and results.

**These items are not included in the 20-page limit.*

SUBMITTING THE TECHNICAL PAPER

To upload your team's Technical Paper (.pdf only), please click the button below to complete the online Technical Paper Submission Form.

No revisions can be accepted on your Technical Paper, so please proof your file very carefully before submitting it. It is very important that you provide us with up-to-date contact information on the submission form. We will contact you immediately if there are any technical problems with the content of your submission (for example, your file was corrupted).

***** Additional Information will be added regarding final presentation and poster requirements.**