

FAA Challenge: Smart Airport Student Competition Q&A Session Summary Document



**Q&A Session:
October 24, 2019
2:00 – 3:00 PM Eastern Time**

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General Technical Questions

1. What is the biggest challenge that the FAA is facing today?
 - Keeping up with the pace of technological change and leveraging commercially available solutions to solve complex problems.
 - Many. One of them is maintaining the safest Air Traffic Control (ATC) system in the world while building the workforce of the future. Refer to the FAA Strategic Plan FY2019-2022.
2. How are the airlines involved in the smart airport project?
 - They are not directly involved with this effort, but several airlines have ongoing efforts to improve passenger experience, reduce boarding times, and identify new revenue streams.
 - Airlines are potential sponsors. They are currently not working with the FAA on a SMART Airport project. The FAA Acquisition Management System (AMS) does not have a SMART Airport Program that has entered the Service Analysis and Strategic Planning Phase. This FAA Challenge is essentially the first step in the pre-AMS phase, Research and Service Analysis.
3. Is having a prototype of the product necessary for this competition? If we are suggesting the making of an application, prototype, etc., do we have to build it? If so, do we have to submit it with the project proposal before January 13?
 - A prototype of the product is not a requirement but may be beneficial. Submissions will be judged on technical merit, therefore submissions that have a prototype, functional examples, or demonstrable concepts would be scored accordingly throughout the selection process. Other methods to demonstrate your solution may be simulations (computer or video) or graphics.
4. What are the most important factors that need to be considered to stand out in the competition?
 - The most important factors would be demonstration of problem understanding, a solution that is practical and reaches an important population, and your team's ability to communicate its solution.
 - Canvas of SMART Airport concept is wide open. Refer to Challenge website information. Refer to FAA Reauthorization ACT 2018 Section 145:
 - SEC. 145. SENSE OF CONGRESS ON SMART AIRPORTS. It is the sense of Congress that the Administrator of the Federal Aviation Administration and the Secretary of Transportation should produce a smart airports initiative plan that focuses on creating a more consumer-friendly and digitally connected airport experience. The plan should include recommendations on modernizing technologies to provide more efficient check-ins, shortened security lines, Wi-Fi and GPS upgrades, as well as improvements of aircraft turnaround for on-time boarding and flights. The

purpose of the initiative is to invest in technologies and infrastructure toward better-connected airports while providing appropriate national security and cybersecurity for travelers.

5. For the most part, airlines keep their data proprietary. What is their point of view on this project?
 - The FAA and the airline industry are not currently collaborating on this effort, but several airlines have ongoing efforts to improve passenger experience, reduce boarding times, and identify new revenue streams.
6. Is there anything specific here that needs to be addressed in our project?
 - Canvas of SMART Airport concept is wide open. Refer to the Challenge website.
7. What are the most critical changes that we must address to improve efficiency?
 - The challenge is to improve the traveler's transportation experience, not necessarily to improve efficiency.
8. Are airports going to adapt to Artificial Intelligence (AI) technologies? Are there any foreseeable limitations with AI integration?
 - Yes, there are a number of international airports currently exploring AI to improve efficiency, reduce costs, and predict operations.
9. Are there any areas you do not want us to attempt to address?
 - Canvas of SMART Airport concept is wide open. Refer to the FAA Reauthorization ACT 2018 Section 145.
10. What is a smart airport?
 - Canvas of SMART Airport concept is wide open. In that, the FAA Authorization ACT 2018 Section 145 has only recently conceptualized this initiative. We are looking for that definition to be created by the participants of this Challenge.
11. What is the level of technicality necessary in the "Project Plans" portion of the submission? How detailed does the project have to be?
 - No specific technical capability level is required. However, evaluations of Project Plans would score more detailed, complete, and mature levels accordingly.
12. Should our solution be aimed at large hub airports, or for all airports? Should we only concentrate on the airport we are using as a model?
 - That is entirely up to the project team. If you focus on a smaller airport you should attempt to show how the solution can scale to address larger hub airports.
 - Teams should scope the applicability of the concept they develop based on meeting the evaluation and selection criteria. Determine the resources and time frame available in meeting the Challenge timeline and, if selected, as a finalist presenting a robust as capable version of the concept.

13. Is it acceptable to "rethink" a current technology and its implementation?
 - Absolutely, just be sure that you are not violating intellectual property rights of the Original Equipment Manufacturer (OEM). Also, keep in mind that there is a section in the evaluation for Originality, which is worth 10% of your total score.
14. What kind of passengers are we aiming for?
 - Commercial aviation passengers. The challenge states "submissions must incorporate solutions that ensure that diverse passenger populations are able to successfully navigate and use our airports and transportation systems to get them where they plan to go." You can focus on passengers with special needs, elderly, young children etc., but anything that improves a passenger's experience is fair game.
15. Can we use our territory's international airport as reference for the project? (Specifically, Puerto Rico?)
 - Absolutely, just be sure to show how your project generalizes/scales to other airports.
16. Should our project address all of the topics listed, or can we pick a subset of issues to address?
 - Your solution need not address all the topics, but clearly address all the issues you present in your problem statement.
17. For this project do we need to follow a budget that you guys will determine?
 - The FAA is not providing any funding to support this Challenge other than the Prize to the winner and limited travel funding to the three finalists. It is your challenge to obtain required funding to develop your concept if it is required.
 - The Challenge does not prescribe a specific budget range for projects. Costs associated should be considered in your submission and will be evaluated as part of the Practicality factor.

Programmatic Questions

1. What does "selection status" mean? On the calendar, it states: March 1, 2020 teams notified of selection status.
 - "Selection status" refers to whether or not a team's Project Plan Proposal was selected as a finalist for the FAA Challenge. Teams will be either "selected" or "non-selected." We receive many excellent ideas, but we can only select three finalist teams for this competition.
2. What is the standard format for the project and is there a page limit?
 - Specific Project Plan Proposal formatting instructions can be found on the Submissions page of the FAA Challenge website. Papers are limited to a maximum of 100MB and must be in PDF format. Some subsections have page limitations. Your proposal should include:

1. Cover page
 2. Table of contents
 3. Summary statement
 4. Problem statement & background
 5. Project description (2 sections with several subsections)
 6. Letters of support
 7. Any additional materials
3. We would like to make an explanation video. Do we need to do one? Is it recommended?
- Proposal videos are not required for the FAA Challenge: Smart Airport Student Competition. Videos may be included in the Project Description, Section 2.3 Optional subsection, with a reference to it in the main Plan where appropriate.
4. Can Green Card holders participate?
- Yes. Team members, including all faculty advisors and students, must be citizens or permanent residents of the United States.
5. In what point of view should we write the document (1st, 2nd, or 3rd person point of view)?
- Third person is standard for technical papers. Please use third person.
6. Is it required for the document to be in the APA format?
- You can use any format you like, but please remain consistent throughout your paper.
7. If we want to change something in the synopsis or if we can't develop one of the proposals, do we have to notify you guys of the change?
- You do not need to alert us of any changes that occur prior to the Project Plan Proposal submission stage. If you are selected as a finalist and must make significant changes to your plan, please reach out to us and let us know as soon as possible.
8. What criteria do you guys use to determine the project as a success for this challenge?
- The evaluation criteria can be found on the FAA Challenge Guidelines page. The percentage for each section is broken down as follows:
 - Technical Merit (Max 40%)
 - Practicality (Max 30%)
 - Impact (Max 20%)
 - Originality (Max 10%)
9. For our proposal, are we limited to what we submitted in our EOI?
- No. We understand that your ideas and concepts will evolve throughout the semester as you do research and testing, and we encourage you to submit the best version of your ideas with the Project Plan Proposal.
10. If we enter the finals are all expenses paid for the trip (meaning transportation and hotel)?

- Finalist teams will be reimbursed up to \$6,000 for travel costs associated with attending the Challenge Forum, including transportation and lodging.

11. Could you please explain more detail about the University nomination letters and supporting letters?

- The University Nomination Letter will describe the university's:
 - support to the project team and plan;
 - commitment to provide access to proper university resources, facilities, and equipment to the team to enable completion of the project as proposed; and
 - commitment to make accommodations for team members to attend the Challenge Forum if selected as a Finalist.

A template University Nomination Letter will be made available for teams to use on the Challenge website, on the Project Plan Proposal details page. The letter must be signed by a Dean or Department Head (or appropriate alternative authority) from the university.

Optional additional Supporting Letters may be provided by any industry, government, or academic collaborators that your team is receiving support from. They should include a brief description of the type of support being provided to the team and a statement championing the plan's benefit(s).

Miscellaneous Questions

1. Are industry partnerships valuable in the selection process?
 - There is no specific requirement to be partnered with any one specific industry partner or type of industry. The Challenge does encourage building academic and industry partnerships to develop concepts.
2. Who retains ownership of the Challenge solutions?
 - All submissions remain the property of the team.
3. My team intends to commercialize our idea. Can we still submit it to the Challenge? Will there be any issues with commercialization or ownership of our idea?
 - Yes, you can still submit it to the Challenge. However, your ideas will be presented in summary at a public conference during the FAA Challenge Forum. Teams will retain full ownership of their ideas.
4. Is an implementation/roll-out concept necessary?
 - A roll-out concept is not required but may be helpful to demonstrate solution practicality.
5. If we are suggesting an app, are we supposed to create the actual app?

- A working app is not required; however, some method of solution description is. This may take the form of simulation (computer or video) or graphics.
6. How are we supposed to get the funds for the research and create what we are suggesting in our EOI?
 - University and industry partners are to provide all concept development funding.
 7. How many teams submitted an EOI?
 - We do not make this information publicly available. However, we received strong interest in this Challenge.
 8. How can we contact you in case of doubts during the development of the project plan proposal?
 - The judges cannot offer advice to any individual team. Questions may be sent to faachallenge@nianet.org and the program team will coordinate with the steering committee to provide a response. All questions and answers will be posted to the FAQ page on the Challenge website so that all teams have access to the same information.
 9. Are there any examples of good projects, such as previous winners, somewhere? Are there any “best practices” you would like us to follow?
 - This is the first year that the FAA has sponsored this Challenge, therefore there are no previous projects to share as examples.

Questions Received On-Call

1. If you have an industry partner, do those partners count against your total team maximum?
 - No. Team membership eligibility requirements specifically apply to the advisor and student members of the team. There is not a maximum number of team members for a team, but if you are selected as a finalist, please let us know if you plan to bring more than 12 team members to the onsite competition.
2. When are support letters due?
 - Supporting letters are due with your Project Plan Proposal on January 13, 2020.
3. Is there an expectation of further "development" if selected as a finalist, or are we done in January submission?
 - If you're selected as a finalist, you have from the time you are notified until the Technical Paper Due Date (May 4, 2029) to further develop your concept. We ask for a technical demonstration, app, visual, etc. to be demonstrated at the forum. If you win, you can use the prize money to take it further.
4. Can FAA officials be part of a team?
 - No. Please see the “Rules, Terms, and Conditions” section on the [Challenge Guidelines Page](#), with pertinent info included here:

- 5. The team and/or team members may not be a Federal entity or Federal employee acting within the scope of employment (this includes co-op students with civil servant status.);
 - 6. Team members may not be an employee of the DOT, including but not limited to the FAA;
 - 7. Teams shall not be deemed ineligible because a team member used Federal facilities or consulted with Federal employees during a competition if the facilities and employees are made available to all teams participating in the competition on an equitable basis.
5. How many judges will be reviewing our January submission?
- Six. You can view all of the judges on the [Judges page](#) on the website. Click on the photo for a bio for each judge.
6. Is the plan for our technology to be implemented by the FAA, or is the intention only for us to showcase a student concept? If our technology was to be implemented, what is the time frame – 5 years or 15 years?
- The FAA has an acquisition management system (AMS). There is a complex set of events that have to occur to implement a project with this system. This challenge is a pre-phase of that, where the FAA, industry, and academia can get together and demonstrate an idea for Smart Airports. We are really planting the seeds right now for these concepts to get developed in the long-term. A lot of analyses occur in the AMS (budget, investment analysis, impact, etc.). It would be hard for us to put a number of years on implementation, but much closer to 15.
7. I have a question which is specific to my design, but my question might give away my idea for a unique solution. What should I do?
- If you have a question specific to your project that will give away "secret" or proprietary information, please send the question to the challenge email and clearly state that you don't want the answer posted on the FAQs as it will give away some of your competitive project information.

Future questions should be directed to:

faachallenge@nianet.org