



2026 Gateways to Blue Skies Competition:

RepAir | Advancing Aircraft Maintenance

Q&A Session #1

**November 20, 2025
3:30–5:00 PM Eastern**

(Please mute all mics.)

The Gateway to Blue Skies Competition is administered by the National Institute of Aerospace (NIA) on behalf of NASA



Session Agenda



- Overview of 2026 RepAir Theme
- General Technical Remarks
- General Programmatic Remarks
- Questions Received in Advance
- Additional Questions (Time Permitting)
- Wrap Up

Overview of 2026 Theme:

**RepAir | Advancing
Aircraft Maintenance**



Context for and Discussion of 2026 Theme



Post-secondary student **teams will conceptualize novel maintenance advancements that can be implemented by 2035 or sooner with the goal of improving efficiency, safety, and/or costs for the industry.**

Teams are encouraged to consider high-potential technologies and systems that aren't currently mainstream or highly regarded as becoming mainstream in the future and imagine beyond the status quo.

Proposal and Video Expectations



- What are we looking for in the proposal?
- What we **DO** want to see:
 - **Aviation first!** Solutions must directly address aircraft maintenance issues/opportunities.
 - Solutions that equip existing industry to deal with problems/opportunities they have now
 - High-level systems concepts
 - Consideration of how proposed technology can integrate with or replace existing systems
 - End-user consideration and engagement
 - Decisive and scoped concept choices (one system does not fit all solutions)
 - The ability to close gaps in current aviation maintenance management approach

Proposal and Video Expectations, cont'd...



- What do we **NOT** want to see, concepts focusing on:
 - Business aviation
 - Military aviation
 - General aviation
- What are we looking for in the video?

Proposal and Video Expectations, cont'd...



The Use of AI: (from the guidelines)

"Teams may not have any portion of their submissions created by non-team members, which includes the use of tools such as Generative AI.

- AI can be used for editing purposes, but not to generate content or imagery. "

Incorporate AI related technologies into my concept

Use AI to write our proposal

Use AI to help me expand my pool of research sources

Use AI to make images or charts

Use AI to help make the video submission

Red = No
Yellow = Maybe
Green = It's ok

Programmatic Remarks



Read the Competition Guidelines in full!

- They provide the foundation upon which your submission will be judged.
- Carefully review the evaluation criteria.
- **Important!** You will need to submit some additional items with your proposal:
 - A W-9/Vendor Form
 - Primary Academic Advisor must sign the Faculty Attestation Form.
 - **NEW Participation Agreement – 1 per team, signed by advisor on the Attestation Form**
- YOU are selling your proposed concept to the judges!
- Finalists selected based on Proposal and Video Submission.
 - Remember to use the [Proposal Checklist](#) to ensure all required proposal items are accounted for prior to submitting.

**NEXT
DEADLINE** →

**2026 Competition
Announced**
(September 2025)

Q&A Session 2
(January 27, 2026)

**Proposal & Video
Submissions Due**
(February 16, 2026)

**Selection
Notifications**
(March 13, 2026)

**Forum at NASA
Langley**
(May 2026)

Technical Questions Received in Advance



- **Is the goal of our proposal to improve safety, cost, and efficiency, or is it ok for a proposal to focus on one of the three areas exclusively?**
 - Yes, you can focus on one of the three areas exclusively. The competition requests advancements that can be implemented by 2035 or sooner with the goal of improving efficiency, safety, and/or costs. Teams can choose to address one or more of those three areas in their proposal. However, teams should consider the many different factors when justifying the viability of their concept, (i.e. if you make the process more time efficient but the cost exceeds the savings, is it viable to the business?)
- **Are there any budget or resource limitations regarding the tools, materials, or systems that teams may use or develop for their proposed solution?**
 - While the competition doesn't impose restrictions on budget or resources, it's important for teams to consider realistic costs for the target end user and economic viability for the proposed concept.

Technical Questions Received in Advance



- **Are there specific topics or things that are more likely to be advanced to Phase II over other topics?**
 - Innovative concepts within the guidelines of this year's theme are more likely to advance to Phase II (see scoring guidelines). Teams are responsible for using solid research and creativity to develop and justify their innovative concepts in their proposals.
- **Are there specific technical requirements or focus areas we must address in our proposal – for example, detecting or repairing fatigue cracks in aircraft fuselages?**
 - The theme leaves many options open for the teams to explore well beyond the example list provided of focus areas. Teams should make sure they address the items listed in the guidelines' Required Proposal Elements & Phase 1: Evaluation Criteria sections.

Technical Questions Received in Advance



- **We understand the scope of the competition is limited to commercial/cargo aviation – is it ok for us to consider solutions that would help the military/general aviation side *along with commercial*, or would this dilute the strength of a proposal?**
 - Many advancements that can be made to the commercial sector will end up benefitting other aviation sectors. While you can mention details of this extensibility, it should not consume too much of your limited proposal page space. A strong proposal will focus on the concept and its implementation.
- **What is the level of technical and/or implementation detail for how our idea could be used by 2035?**
 - You are limited in the amount of space for your proposal, so it is important to balance the high-level view of your concept and its path to deployment with the technical details that justifies to our technical judges its potential implementation.

Technical Questions Received in Advance



- **Are there any time constraints teams should consider for detecting or repairing fatigue cracks during ground-based maintenance, such as a maximum inspection or turnaround times between flights?**
 - The competition does not put those constraints on the teams. However, we encourage teams to research and to even consult potential end users, people in industry, or others in the field to find out what time constraints might exist or what expectations are like from companies that do work like this.
- **Are there specific engine failure modes or maintenance pain points that NASA and industry partners see as especially urgent, that would be high-value targets for student teams? And how do we go about getting the statistics that go with these failure modes?**
 - We encourage teams to reach out to industry to get a better understanding of the industry and the opportunity spaces where the teams can innovate. NASA is not targeting any specific engine failure modes or maintenance pain points.

Technical Questions Received in Advance



- **How much data/evidence/proof/scientific papers supporting our idea is necessary in the proposal? (e.g., do we need hard data supporting our idea's plausibility or are our speculative thoughts with some data enough?)**
 - How much hard data is available can depend on the existence or TRL level of the technology the teams are aiming to utilize. Since the teams are scored on feasibility and how well they justify the points made in the proposal, teams should be wary of too much speculation.
- **How deeply should we address certification and regulatory considerations (e.g., FAA approval of new inspection methods or digital tools), and are there any standard assumptions you recommend teams use rather than diving into full regulatory analysis?**
 - We want to make sure teams consider certification, regulation, and other challenges/potential barriers to the implementation of their concept, but teams should be careful of how much they deep dive into tangents if discussion of the overall feasibility suffers from it.

Technical Questions Received in Advance



- **Does our proposal idea have to be environmentally conscious, or can it be dismissive of the environmental effects without penalization?**
 - Concepts that are detrimental to the environment will not be viewed favorably. As part of the proposal's Situation Assessment, teams are asked to address the potential impacts of their concepts, which includes social, economic, and environmental factors. Proposals that thoughtfully consider and minimize negative environmental effects will be more competitive in the judging process. Teams should also consider existing laws and regulations where appropriate.

Programmatic Questions Received in Advance



- **What citation would you prefer? And is the works cited page included in the overall page count?**
 - There is no required citation format, but all references must be formatted consistently and correctly. References should be included in the appendices, which do not count toward the overall page limit.
 - Please refer to the Proposal Formatting Guidelines on Pg. 10 of the [2026 GBS Competition Guidelines](#).
- **For the first round of the competition, is a working model or physical prototype of our team necessary?**
 - No. Teams are not expected to develop software or physical prototypes for any phase of this project.

Programmatic Questions Received in Advance



- **Will the judges be chosen based on the topic of the Finalists?**
 - Judges are selected before the Proposal deadline, since they evaluate the submitted proposals. Their selection is based on several factors, including subject matter expertise related to the overall theme and to the types of concepts described in the teams' NOI summaries.
- **Are we allowed to switch our advisors during the course of this competition, i.e., if other work obligations arise?**
 - Yes, you are permitted to switch advisors. However, the advisor must be from the lead college/university and a U.S. Citizen/LPR. Please notify us ASAP at blueskies@nianet.org if there are any changes to the primary advisor or student team lead during the competition.

Programmatic Questions Received in Advance



- **Can we speak to people about technical areas who have worked on similar projects or in the field of interest or do we have to only do independent research?**
 - Yes — teams are encouraged to engage with industry professionals to better understand real-world needs and opportunities within their chosen research area.
 - Page 4 of the [2026 GBS Competition Guidelines](#) states “Teams are highly encouraged to contact appropriate non-government stakeholders to better understand the impacts of current events and technologies on the aviation maintenance sector and current management approach gaps that may be addressed through their proposed concept.”
- **Can NASA provide us with data or information on our topic that is not publicly available if we request it? And if so, who would we contact (specific email, etc.) in order to request that information?**
 - No. Neither NASA nor NIA will be providing information to teams that is not publicly available. Teams are encouraged to use [NASA's Technical Reports Server \(NTRS\)](#) search engine and other publicly available sources.

Programmatic Questions Received in Advance



- **How will proposed solutions be evaluated — are there specific criteria or performance metrics that NASA reviewers will prioritize (e.g., innovation, feasibility, environmental impact, scalability)?**
 - Page 4 of the [Competition Guidelines](#) states "The competition seeks innovative concepts, with evaluation weighted toward sound technical analysis and justification of the proposed concept according to the theme description and details."
 - The GBS Judging Panel will evaluate each submission based on adherence to the competition guidelines, constraints, and the published evaluation criteria.
 - Page 13 of the Competition Guidelines provides a detailed breakdown of the Proposal Evaluation Criteria and includes a link to the [Proposal Scoring Matrix](#). The scoring matrix outlines the point values for each evaluation category, allowing teams to easily identify which areas carry the most weight.

Live Q&A



Open Call for Additional Questions

**Use the "Raise Hand" Function to be called on
or type your question in the Chat**



Additional Questions?



Please direct all future questions to the GBS Program Team at blueskies@nianet.org.

All questions, including those asked on the call will be transcribed and posted to the GBS FAQs shortly.

<https://blueskies.nianet.org/faq>



SHELLEY SPEARS
Director, Education
and Outreach



STACY DEES
Higher Education Challenges
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Gateways to Blue Skies
Program Coordinator



**Thank you, and best
of luck to all teams!**