

Industry/NASA Flight Deck Research Working Group (FDR WG) Terms of Reference

Charter

The FDR WG is chartered to facilitate knowledge transfer between the NASA and participants representing the aerospace industry. This facilitation benefits the broad aviation community by ensuring that fundamental knowledge and understanding underpins new technology developments. Participants will have the opportunity to receive early insights into NASA-funded technical advances and will be given the opportunity to provide opinions regarding the relevance of NASA-funded research.

Mission statement

The FDR WG mission is to identify needed capabilities for future flight deck systems, to track recent advances, and to define challenge problems where research is required to seek insight into how these problems might be overcome.

Products

Description of needed flight deck system capabilities. To be considered for the list, the desired capability must be of common interest across at least two participating organizations. A consensus across the group would be preferred and would affect the relative priority of a desired capability – if the group chooses to create a prioritized list.

Focused challenge problem statements. A challenge problem is defined by two characteristics: (1) it represents a significant technical issue that must be overcome in order to achieve one or more of the desired capabilities, and (2) either there is no known solution or concept yet postulated, or in cases where a solution or concept has been postulated, fundamental research is required to fully understand underlying behaviors or relationships and to develop instantiations or models for validating the concept.

The following additional products may be considered: challenge problem solution approaches (e.g. research roadmaps, roles and responsibilities), white papers providing requirements or guidance materials; and research review results – where the group serves as a source of peer reviewers.

Concept of operations

Participation is open to U. S. entities.

Participation is expected primarily from technology developers but may also include representation from the user community (e.g., pilot groups and airline operators).

Participation is voluntary and independent of past, current, or future contractual participation with NASA.

Working group scope does not include Federal Advisory Committee Act (FACA) activities.

The FDR WG will convene at least once per year in person with additional meetings scheduled as deemed appropriate by the group. The additional meetings may be via telecons or other virtual arrangements. Subsequent to any meetings, minutes will be made available to all participants.

Space Act Agreements are not required to participate in the FDR WG. However, FDR WG activities serve as a catalyst for future Space Act Agreements with participant organizations.

Management structure

The Chair of the FDR WG should be a Non-NASA participant. However, NASA can and will support facilitation of the WG activities.

A leadership team can be formed or not, depending on the size and will of the group. This may include for example a Vice Chair and/or Secretary.

A consensus-based decision-making process is initially adopted by the WG. This process may be re-addressed by the WG in the future.

Information sharing

It is envisioned that information that is shared among the entire group is non-proprietary and can be made publicly available.

No expectation of information safeguarding is implied or expected.

Participants can share proprietary information among themselves following whatever practices the individual participants require to safeguard intellectual property.

Challenge problem identification process

When identifying challenge problems of common interest to both industry and NASA, the group should consider the following questions:

- 1) Does research aimed at resolving the problem benefit NASA, the US taxpayer, and the Aero community?
- 2) Can research results be widely distributed and peer-reviewed?
- 3) Does the research support moving toward NGATS?
- 4) Which companies are interested in this research?
- 5) Is a Space Act Agreement necessary? Are there IP issues?
- 6) Who is responsible for facilitation/follow-up (identify one POC at each org)
- 7) Does the needed research fall within the scope of the currently planned NASA Programs/Projects? If so, which one?
- 8) What can industry expect from NASA with regard to resolving the problem (e.g. data, studies, facilities, people)?