

FAA CHALLENGE

Smart Connected Aviation Student Competition



Federal Aviation
Administration

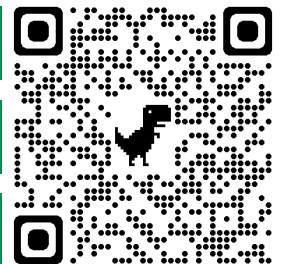
2022 FAA CHALLENGE

Call for Proposals: \$25,000 Top Prize!

The FAA is developing a vision for an info-centric National Airspace System (NAS). Full connectivity will come from infrastructure supporting NAS operations that enable all systems to share data. This system-to-system communication can be used to share location and information across vehicles, subsystems, and Air Traffic Management stakeholders from airspace users to airports.

Interested in Participating?

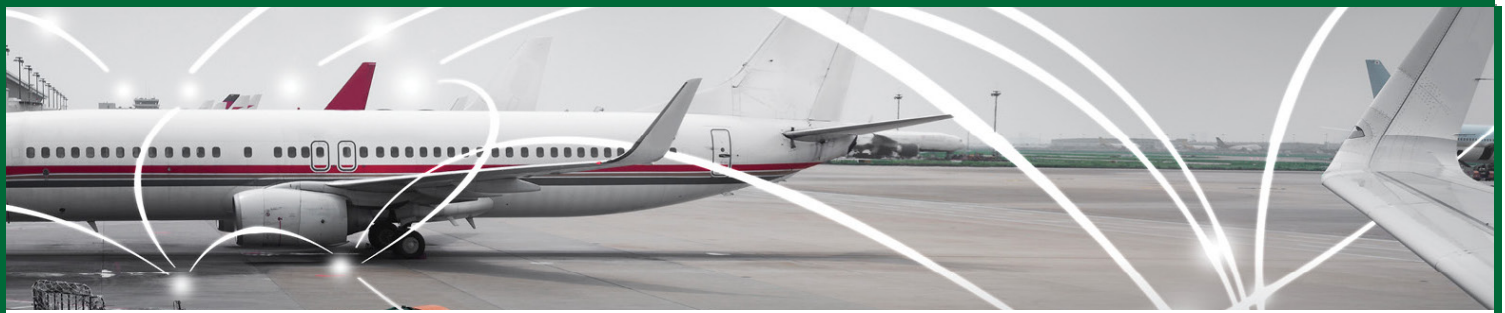
1. Visit the Challenge Website and Review the Guidelines and Details
2. Ensure All Team Members Meet the Eligibility Requirements
3. Develop and Submit a Project Plan Proposal by January 20, 2022



A Finalist Team from each Category will be selected by February 28, 2022. Finalists will receive a travel reimbursement up to \$6,000 to offset the cost of traveling to the FAA's William J. Hughes Technical Center in Atlantic City, New Jersey in June 2022 to present and demonstrate their concepts.

Four Finalist Teams will receive a \$10,000 Prize Award and will be invited to compete for Best Overall and an additional \$15,000 at the 2022 FAA Challenge Forum!

For Challenge Guidelines and Details, visit <https://faachallenge.nianet.org>.



With all types of devices connected to the Internet (known as the Internet of Things, IoT) and advances in wireless technology, nearly everything can be connected from nearly any location at any time. Through improved filtering and presentation methods, this collection of information and automation-based digital assistance will support human situational awareness. Autonomous systems can rely on this information, in concert with FAA-approved operating rules, to safely operate in the airspace.

For this year's Challenge, the FAA seeks innovative ideas from the academic community that take advantage of a future info-centric NAS, including connected aircraft, that will benefit NAS users in four categories. U.S.-based undergraduate and/or graduate student teams are invited to address one of the four 2022 Challenge categories. Descriptions of the user categories and potential submission topics are provided below.

Commercial Air Transportation

Commercial Air Transportation is defined as "transportation by air of passengers, cargo, or mail for remuneration or hire." This also includes airport ground operations, take-off, in flight, and landing. Technologies and systems that minimize ground wait times and reduce flight times through avoidance of weather and coordination with other connected aircraft are of interest.

General Aviation

General Aviation (GA) is defined by the International Civil Aviation Organization (ICAO) as "all civil aviation operations other than scheduled air services and non-scheduled air transport operations for remunerations or hire." It includes recreational flying, pilot training, business aviation, agriculture applications, emergency medical services, law enforcement and firefighting, aerial photography and survey work, and sightseeing and air tours. GA typically use a separate general aviation terminal at an airport and are looking for many of the same benefits as the commercial/business traveler, but they would have specialized needs arising out of the classification of service listed above. Many are also pilots and would have interest in applications, technologies, and systems that would make cockpit and air operations safer and more efficient.

Emerging Operations

Emerging aviation systems and users would include, but are not limited to, Unmanned Aerial Systems (UAS), Advanced Air Mobility (AAM) and Electric Vertical Takeoff and Landing (eVTOL) systems, Personal Air Vehicles (PAVs), as well as commercial space. Autonomous UAS will soon be ubiquitous and will have major on-going operations in package delivery, agriculture, surveying, law enforcement, security, etc. Approaches for safe integration of these systems into the NAS are of interest. Smart connected aircraft technologies are essential to these systems to operate safely and efficiently. One of the FAA's major roles is to "efficiently integrate Commercial Space operations into the NAS to minimize impact on air travel and maximize safety." Technologies and concepts to enable these systems to safely operate in the NAS are of great interest.

Traveling Public

Commercial and business travelers travel nationally and internationally on scheduled commercial flights on large and regional aircraft that carry 20 to 500 passengers. In the future, they will also be traveling regionally on AAM and eVTOL systems. They are interested in getting from airport departure to airport arrival in a safe, convenient, comfortable, low-cost, and entertaining manner. This experience begins at airport parking and departure, through check-in, baggage drop-off/pick-up, passing security, transport to/from the gate, and boarding/deplaning of the aircraft. Smart airport technologies that take advantage of the IoT would be of interest. An additional area of interest may include in-flight cabin activities, e.g., systems that provide in-flight information and entertainment.

**Project Plan Proposals are due by 11:59 PM ET on Thursday, January 20, 2022.
Any Questions? Contact the FAA Challenge Program Team at
faachallenge@nianet.org.**



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