



The Aeronautics Research Mission Directorate (ARMD) generates the innovative concepts, technologies, and capabilities needed to enable revolutionary change to both the airspace system and the aircraft that fly within it. ARMD's concepts, technologies, and capabilities will lead to a safer and more efficient national air transportation system, as well as more environmentally friendly aircraft, as ARMD focuses on green aviation. ARMD's research will continue to play a vital role in supporting NASA's human and robotic space activities.

The Integrated Systems Research Program

As the Next Generation Air Transportation System (NextGen) evolves, researchers must address the national challenges of mobility, capacity, safety, security, energy, and the environment in order to meet the expected growth in air traffic. The Integrated Systems Research Program (ISRP) focuses on maturing and integrating NextGen technologies into major vehicle/operational systems and subsystems that will address these national challenges. Using a system-level approach, NASA researchers explore, assess, and demonstrate the benefits of those technologies in a relevant environment.

The Fundamental Aeronautics Program

This program conducts cutting-edge research to enable the design of vehicles that fly through any atmosphere at any speed. Long-term program goals include significantly advancing the state of the art in fundamental technologies critical to reducing noise, emissions, and fuel consumption, as well as enhancing the performance of future vehicles. The program also supports the broader goals of the Agency by conducting fundamental research to enable the safe and accurate entry, descent, and landing of vehicles through planetary atmospheres.

The Aviation Safety Program

This program focuses on developing cutting-edge tools and methods that will improve the intrinsic safety attributes of current and future aircraft. These tools and methods will help overcome aviation safety challenges that would otherwise constrain the full realization of NextGen. The research conducted in this program will have applicability to space exploration activities such as enabling the self-reliant and intelligent systems necessary for long-duration travel by future space vehicles.

The Airspace Systems Program

This program conducts cutting-edge air traffic management research that will enable NextGen to handle up to three times the current travel demand by 2025. In partnership with the Joint Planning and Development Office, the Airspace Systems Program develops the concepts, algorithms, capabilities, and technologies that will lead to the significant enhancements in capacity, efficiency, and flexibility needed to meet the Nation's airspace and airportal (gates, taxiways, runways, and final-approach airspace) requirements for decades to come.



The Aeronautics Test Program

This program ensures that NASA's aeronautical test facilities are available to meet its own research requirements and those of national partners. Strategic utilization, operations, maintenance, and investment decisions are made for facilities at Ames Research Center in Moffett Field, CA; Glenn Research Center in Cleveland, OH; and Langley Research Center in Hampton, VA; as well as for the Western Aeronautical Test Range, support aircraft, and test bed aircraft at Dryden Flight Research Center in Edwards, CA.

For more information on the Aeronautics Research Mission, go to <http://www.aerospace.nasa.gov>.