Aviation Safety Technology

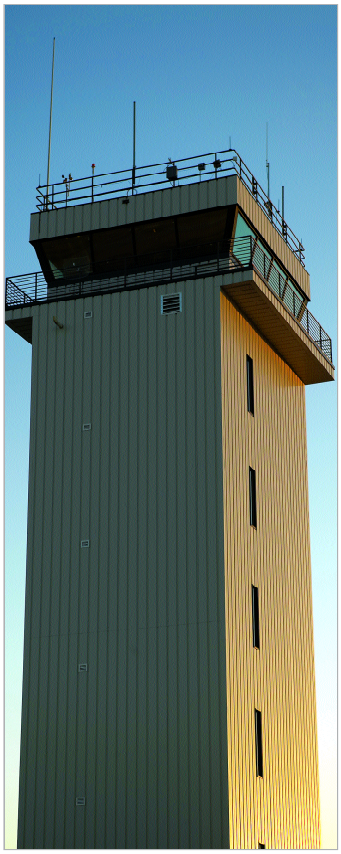
technology opportunity

Portable Runway Intersection Display and Monitoring System

Developed at NASA Marshall Space Flight Center (MSFC), the subject technology is a portable airport runway/taxiway intersection lighting system and signage designed to prevent incursions. This proposed runway incursion prevention solution aids in the management and prevention of airport runway accidents through interfacing with aircraft and the control tower in preventing potentially dangerous incidents between aircraft.

Benefits

- Radio controlled by the tower utilizing encrypted signals
- Provides confirmation signal that monitors and reports pilot's actions to the tower
- Communication link for commanding and monitoring portable signs
- Utilizes sensor system for automatic detection and verbal warning of clearance violators
- Utilizes lower-cost commercial off-the-shelf components
- Solar power with backup battery
- Works with existing runway systems, and is able to be enhanced
- Integrated short-range radar
- Portable
- Cost-effective solution compared to other proposed systems



The Technology

The system comprises an air traffic control user interface, a central communication unit, and several runway intersection display and monitorunits. The technology is a simple solution forincursion prevention with alternativecommunications methods,warning/alert devices,and power supplies. Automatic detection and verbal warning of clearance violators and health and status watchdog signal are also provided. The Portable Runway Intersection Display and Monitoring System provides portability, compactness, versatility, enhanceability, and cost-effectiveness in establishing a protective environment for aircraft taking off, intending to take off, landing, or intending to land.
The current technology has a Technology Readiness Level of 2: Technical Concept.

For More Information

If you would like more information about this technology or about NASA's technology transfer program, please contact:

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Partnering Opportunities

This technology is part of NASA's technology transfer program. The program seeks to stimulate development of commercial uses of NASA-developed technologies. NASA is flexible in its agreements, and opportunities exist for licensing and joint development. MSFC is interested in a partnership to further develop and commercialize this technology.

Commercial Applications

This invention has application in commercial, general, and military aviation airport taxiway lighting systems to prevent aircraft accidents and prevent runway incursion violations.

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