This research and experimentation project is focused on the development of a new radar system that will perform air traffic control for military and civilian applications. It is being conducted, in large part, to support requirements expressed to us by several United States departments and agencies – including DoD, DHS, and FAA. The objective of this effort is to complete the development of the radar system by emitting and receiving skin returns from non-cooperative airborne targets of interest. This cannot be accomplished in a laboratory environment. As such, the field testing is necessary. As this system is not a radio associated with communications, it will not contribute in this area – however, will contribute to national air safety and development as a radar system for legacy upgrade and new installation.