

**RESTRICTED**

**ABSTRACT**

Secure communication and interoperability are vital considerations in executing effective Command and Control. Consequently, a reliable and viable secure communication system is ought to be fielded by Sri Lankan Armed Forces in facilitating effective Command and Control. The existing secure communication equipment in Sri Lankan Armed Forces have become obsolete in the face of rapid technological advancement in tactical communication technologies. The same technology is readily accessible for the potential adversaries. Thereby, the secure communication capabilities of Sri Lankan Armed Forces have become vulnerable for an adequately strong Electronic Warfare threat environment that would be posed by the potential adversaries. The research employs an exploratory design in which judgmental sampling techniques are used to gather primary data from the expertise in secure communication of Sri Lankan Armed Forces. Secondary data was gathered from the secondary sources of information. The gathered data are analyzed using content analysis in virtue of generating the findings. The study found that the existing COUGAR secure communication system is highly limited in its capability to upgrade to provide secure communication with interoperability in considering the equipment, technology and human resource as independent variables. Thereby the study proposes to adopt Software Defined Radio Technology as a reliable and viable solution for Sri Lankan Armed Forces, to overcome the existing limitations of COUGAR secure communication system and to achieve interoperability. The study further suggests to adopt a progressive induction approach in installing Software Defined Radio Technology and to phase out the existing COUGAR radio in parallel to meet the secure communication and interoperability requirements. The recommendations are made outlining the key areas required to be developed and implemented in acquiring Software Defined Radio system.

**Key Words:** Secure Communication, Interoperability, Software Defined Radio