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'Aatmanirbhar Bharat': MoD accords high priority to indigenisation of Software Defined Radios for the Armed Forces

Ministry of Defence (MoD) has fast-tracked the indigenisation of Software Defined Radios (SDRs) with country's premier R&D institutions viz. Defence Research and Development Organisation (DRDO) and Indian Institute of Technology (IIT) Kanpur to fulfill the increasing demand by the Armed Forces across a broad spectrum of operations. The complete product life cycle management framework is necessary for security sensitive SDR technology and products. It involves indigenous self-sustainable design, development, manufacturing, testing/certification and maintenance ecosystem. Defence Secretary Dr Ajay Kumar, while according high priority to the indigenisation of SDR technology, stated that it will be an important milestone towards achieving the goals of 'Aatmanirbhar Bharat' in the field of secured radio communication.

Two key elements of indigenous SDR technology are the standardised operating software environment (OE) and applications (also known as waveforms) with associated waveforms repository and test/certification facility. Standard OE enables waveform portability and interoperability among SDRs of multiple vendors. Towards this, the Ministry of Defence has taken a decision to define and develop reference implementation of India specific operating environment called India Software Communication Architecture (SCA) profile or Indian Radio Software Architecture.

Director, IIT Kanpur Dr Abhay Karandikar, who is the Chairman of SCA Committee constituted by MoD, has pioneered the idea of having 'India SCA Profile'. A Draft Project Report (DPR) has been formulated by DEAL/DRDO towards indigenous development of SDR with a roadmap and timelines.

The Directorate of Standardisation (DoS) in the Department of Defence Production, MoD will steer the development of IRSA with DRDO, academia and industry with definition in three to six months and additional 18 months for associated reference implementation, testing and compliance certification tools.

Availability of IRSA through access control will enable the Indian software vendors to integrate and make SDRs interoperable and security gradable. The IRSA will be notified by DoS and shared with the industry towards development of indigenous SDR for use by Indian defence/security forces and export to friendly foreign nations.

The three institutions involved in the development namely, DEAL/DRDO, IIT-Kanpur and DoS have already started the work as per DPR. Defence Secretary Dr Ajay Kumar exuded confidence on all organisations and said that it will create a new benchmark towards indigenisation of critical equipment which, so far, has been imported. This would give a boost to the endeavour to achieve 'Aatmanirbharta', reduce import budget and create secured radio network for the Armed Forces. He added that the efforts will be made to complete it in a time-bound manner.

ABB/Savvy