Vikrant 'Nouvelle Génération'

Artist's depiction of the new INS Vikrant

Projected to enter operational service in 2023, the Directorate of Naval Design-designed Indigenous Aircraft Carrier-1 (IAC-1) which is to be INS *Vikrant,* represents the first aircraft carrier built in India (at Cochin shipyard) and retains the features of an Air Defence Ship (ADS) as is usually projected. The vessel was launched on 12 August 2013 and holds the distinction of being the first ship of the Indian Navy to be built entirely with domestically-produced steel in collaboration of the Defence Metallurgical Research Laboratory (DMRL) and Steel Authority of India Limited (SAIL). The ship displaces 40,000 tonnes and is powered by four General Electric LM2500+ gas turbines.

An air defence-oriented platform tasked to establish local air superiority over the oceans, the *Vikrant*'s primary air surveillance radar is reportedly the Selex RAN-40L 3D L-band search radar (based on existing land based 3D RAT-31DL) developed by Leonardo and functions as long range maritime air surveillance and early warning system *(see image)*. The radar uses a fully solid state active phased array antenna and is capable of tracking and detecting air targets, aircraft or drones up to 400 km away. Functions of the radar include Track While Scan (TWS) for air and surface long-range surveillance and missile tracking. Radar coverage is obtained by phase scanning in elevation, while mechanically rotating in azimuth. The antenna rotates at 6 rpm or 12 rpm, with 360° azimuth coverage.

Air Surveillance radar (photo from the Net)