**Digital Beamforming Based Satellite TV**

1. **Brief Description/ Technical Details.**

(a) Development of Digital Beamforming Based Satellite TV (DB2ST) system by firms under the ‘Make’ category to ensure uninterrupted reception of satellite TV to all ships at sea. With increased tempo of operations and sustained presence of warships out at sea for prolonged durations, the need for the crew to keep abreast of the situation in and around the country.

(b) Recreational system fitted presently is of imported variety forcing us to be reliant on handful of global vendors for sales and support. Moreover, since the stabilisation is carried out mechanically reception is intermittent during rough seas. Also, the mechanical parts are prone to frequent defects. The development of this equipment would facilitate availability of indigenous alternatives to presently imported hardware while ensuring usage of advanced technology (Digital Beamforming) for obviating the requirement of mechanical parts. The technical requirements for DB2ST is as follows:

(i) **Technology**. The DB2ST system should utilize Digital Beamforming along with Adaptive beam steering so as to ensure that no mechanical movement of the antenna is required.

(ii) **Polarisation**. The antenna system is required to receive signals in linear (with different skew angles) or circular polarization mode from any of the geosynchronous TV satellites around the world at Ku band. This input will be distributed to the satellite TV receivers which will provide the Audio/Video to the televisions

(iii) **Frequency of Operation**. 10-14 GHz.

(iv) **Antenna**.

(aa)Type: Multiple Patch Array Antennas with Digital Beamforming Algorithm.

(ab)Gain- 38.5 dBi at 12.5 GHz.

(ac)Size (including Radome) - Less than 1m (maximum diameter) \*1m (height).

(ad) Weight (including Radome) – Less than 50 Kg

2. **Tentative** **Quantity.** 100.

3. **Tentative Timelines for Development/Production**. Two- three years