Enhanced Capability GNSS Jammers – Indian Navy

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Why in News?

Recently, The Ministry of Defence signed a contract for procuring 20 Enhanced Capability Global Navigation Satellite System (ECGNSS) jammers for the Indian Navy.

- **ECGNSS –** It refers to advanced, mobile electronic warfare systems designed to disrupt, degrade, or deceive hostile satellite navigation signals specifically by ***jamming and spoofing.***

  Signal jamming –** It means blocking wireless communication (signal-to-noise ratio) by sending strong interference signals on the same frequency, this creates a localized* ***"dead zone" *where legitimate signals cannot transmit or receive data devices become inoperable.*

  ***Signal spoofing –** It is a cyberattack where transmitter broadcasts counterfeit radio signals to trick a receiver* into trusting false data.

- **Developed by –** Accord Software and Systems Pvt. Ltd.

System Features

- **Deceptive Jamming & Spoofing -** Beyond brute-force noise jamming (which simply blocks a frequency), these enhanced capability systems specialize in signal spoofing.
- They broadcast false satellite signals that deceive hostile receivers—tricking enemy drones, cruise missiles, or vessels into calculating incorrect positioning, navigation, and timing (PNT) data.
- **Electronic Warfare (EW) Layering -** Modern naval combat relies heavily on network-centric warfare.
- The ECGNSS jammers act as soft-kill offensive and defensive measures,

blinding anti-ship precision-guided munitions (PGMs) before they reach local airspace.

- **Technology –** Indigenously designed, developed, and manufactured; aligns with Aatmanirbhar Bharat and Make-in-India initiatives.
- The systems feature a minimum of **75% indigenous content**, reinforcing the domestic defense manufacturing footprint.
- **Maritime Security –** Strengthens electronic warfare capabilities of Indian Navy ships.
- **Broad Spectrum Denial -** The jammers are engineered to degrade the signal acquisition and satellite tracking performance of all major foreign adversary GNSS architectures, including:
  - GPS (United States)
  - GLONASS (Russia)
  - BeiDou (China)
  - Galileo (European Union)

References

1. PIB | ECGNSS
2. TOI | ECGNSS

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