

3. NavIC in Mobiles

Prelims Level: Science and Technology

Mains Level: GS-III Achievements of Indians in Science & Technology; Indigenization of Technology and Developing New Technology.

Why in News?

- Qualcomm Technologies has unveiled mobile chipsets that are capable of supporting Indian regional satellite navigation system - NavIC (Navigation in Indian Constellation).

Usage of New Chipsets:

- The release of new chipsets will accelerate the adoption of NavIC by Smartphone Original Equipment Manufacturers (OEMs). Users of such mobile chipsets will be able to use NavIC within the Indian region and in neighbouring countries.
- OEM is traditionally defined as a company whose goods are used as components in the products of another company, which then sells the finished item to users
- These enhancements will enable mobile, automotive and IoT platforms to better serve key industries and technology ecosystems in the region.
- This will help improve user experience for location-based applications especially in dense urban environments where geo-location accuracy tends to degrade.

Benefits:

- NavIC is set to become the backbone of a public vehicle tracking system in India since it offers flexibility to local law enforcement agencies to monitor vehicles unlike international systems like GPS (global positioning system).
- The government has made NavIC-based vehicle trackers mandatory for all commercial vehicles in the country in accordance with the Nirbhaya case verdict. So this will facilitate the installation of vehicle tracking systems and panic buttons in all commercial vehicles.
- In addition to NavIC, these chipsets will also support the widely used GNSS (Global Navigation Satellite System).
- GNSS includes USA's GPS, European Union's Galileo, Russia's GLONASS and China's BeiDou Navigation Satellite System for global coverage.

About Navigation in Indian Constellation (NavIC):

- It has been developed by the Indian Space Research Organization (ISRO). IRNSS is otherwise known as NavIC.

- IRNSS is an independent regional navigation satellite system being developed by India. It is designed to provide accurate position information service to users in India as well as the region extending up to 1500 km from its boundary, which is its primary service area.
- IRNSS consists of eight satellites, three satellites in geostationary orbit and five satellites in geosynchronous orbit.
- IRNSS will provide two types of services, namely, Standard Positioning Service (SPS) which is provided to all the users and Restricted Service (RS), which is an encrypted service provided only to the authorised users.
- The IRNSS System is expected to provide a position accuracy of better than 20 m in the primary service area.

